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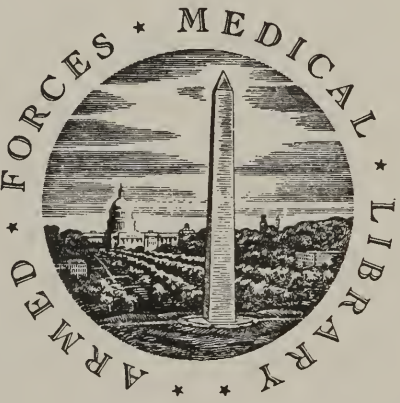

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AN

ESSAY

ON THE

EPIDEMICS

OF

THE WINTERS OF 1813 AND 1814,

IN

TALBOT & QUEEN-ANNE'S COUNTIES

IN THE

STATE OF MARYLAND.

BY ENNALLS MARTIN, M. B.
PRACTITIONER OF MEDICINE IN EASTON, MARYLAND.

I do not contend for my own opinion, but for reason, or what carries the appearance of it. *Scaliger.*

4582.

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1815.

DEDICATION.

TO NOAH WEBSTER, Esq.

Author of a "Brief History of Epidemical and Pestilential Diseases," &c. &c.

Sir,

Believing as I do, that you have contributed more than any other man in ancient, or modern times, to develope the origin, and cause of *epidemical disease*, I should be greatly wanting in due respect, and indeed gratitude, if I did not endeavour to make suitable acknowledgments for the great advantage I have derived from your inestimable "history of epidemical, and pestilential diseases;" as it must be perceived by all those, who may take the trouble of reading this piece, that I am much indebted to you even for the principles on which the following essay are attempted to be established.

In the memorable year of 1783, I commenced the practice of medicine in this place, with a full share of *theory* upon medical subjects, while at the same time I was not a little tinctured with all the wild and ridiculous notions about *contagion and infection;* of course, like all other young men, puffed up with themselves, I felt a constant *predisposition* to make all the facts, which were daily, as well as *yearly* coming to my notice, bend to the theories, which I had adopted, for I really believed the "*principles, and doctrines*" of Dr. Cullen, the medical tyrant of the day, as infallible, and as true as "holy writ."

When the mind takes a certain direction even in the method of curing diseases, and it so happens, and happen it may under the most absurd practice, that success attends for a "time,

and for a season or seasons," an established routine, a physician of some understanding may forget to reason on causes and effects, and even when he does exercise his reasoning faculties, he may err in his judgment, because he has not taken the same steps you have done in tracing causes to their proper source.

Whether I have reasoned correctly, by making theory bend to facts, others will take the liberty of judging, however improperly and unfairly; being rivetted to *system*, and consequently indisposed to believe facts, and principles founded on those facts, as I was, until fatal effects from erroneous practice, forced me to relinquish an erroneous *system*. Notwithstanding I had read your history of "epidemical diseases," I might, like too many others, have continued to ridicule you as visionary, if the truth had not been forced upon me by sad experience.

Contagion and *infection*, which have been too generally confounded, and made synonymous, have been conjured up in all ages, and in every country, by the learned and unlearned, the wise and the foolish, and made the stalking horse of all malignant diseases; somuch so, that they are sung as lullabies to reason, and held forth as childish bug bears to fear. If I am to be believed when I assert with confidence, what hundreds and thousands could have testified to, that the range of the epidemic of 1813, was as accurately defined as to limits, as an island by the sea, how is it possible, that contagion should *go thus far and no farther*, while a constant intercourse was kept up with the adjacent country.

Though we have to lament the loss of many valuable lives in this quarter, for the want of better knowledge, it must nevertheless afford not a little gratification to you to learn, that a recent epidemic, has thus made its appearance in *unquestionable shape*, which must contribute to fix more completely the principles, which you have laboured with so much ability and learning to inculcate; and when I make the declaration, you must attribute it to the proper motive, that it would be the means of saving thousands of lives, yearly, if every physician in this and every other country, was laid under a moral obliga-

tion to read once every year your "history of epidemical and pestilential diseases."

That you may live to hear more of your usefulness, if it should please the wise disposer of all human events, to afflict the *inhabitants* of any other quarter of this world, is the sincere wish of,

Sir, your candid friend,

and devoted humble servant,

ENNALLS MARTIN.

Easton, Maryland, January 21, 1815.

PREFACE.

It may be considered rather an unhappy circumstance attendant on the science of medicine, that its practice should be commenced, and continued under impressions of the correctness of certain theoretic principles, more especially so, if the physician should be so presumptuous as to suppose, his doctrines are capable of standing the test of experience. The mind thus predisposed is prepared to make facts bend to theory, instead of founding theory on facts. In other words, under such preconceived notions, the judgment is too liable to be perverted by false reasoning from incorrect principles. Correct practice will ever depend on a great variety of circumstances, but on nothing more than a knowledge of the "*constitution*" of the atmosphere, which unfortunately can never be sufficiently understood, until it has discovered its morbid effects on the human body in the production of disease. Hence to establish a *system* of medical practice upon the experience of a course of years, might before the expiration of another year, be attended with very fatal issue.

The occurrence of an epidemic disease in this town and county (Talbot, Maryland,) in the winter and spring of 1813, has proved beyond all controversy, that *established systems of practice*, which had apparently stood the test of time immemorial, have been dangerous in the hands of the unwary, and that being at constant variance with epidemics, they may become a double scourge at such a period. Folly and wickedness have destroyed thousands of human beings, but system and empericism have done more; they have multiplied the instruments of

death, and destruction ten fold. Whether the following essay will have any tendency to correct some of the errors, which are incident to human weakness, in the preservation of life, the author will not be so vain as even to express a hope, much less an opinion, being too sensible of his own imperfections, and liability to err; but thus much he will venture to proclaim to the world, that the epidemic of 1813, has freed his mind from the shackles of *system*. Having made the attempt to prevent or lessen the evils, to which he believes every quarter of this globe may become liable, he has some consolation, that, perhaps, he may be the humble means, of putting the practitioner of medicine on his guard against the hasty use of remedies, which though they have frequently done much good, they may under a change of circumstances, even when the symptoms of a disease are apparently the same, do much harm. He trusts, it will not be deemed presumptuous to use the language of the great Sydenham, when he says, "though the same variety does "not happen in all distempers, yet I hope to make it plainly "appear in the following sheets, that there are several, which, "notwithstanding their being treated of by authors under the "same name, without any distinction of kind, are extremely "different," as to their cause, and the effects of that cause on the human body.

THE

EPIDEMIC OF 1813,

In Talbot and Queen Anne's County, in the State of Maryland.

BEING fully persuaded, that it is altogether impossible for a physician, who undertakes to write the history of a disease of any kind, but more especially that of an epidemical disease, to be instructive and useful, unless he candidly relate the errors, as well as the correctness of his judgment in its treatment, I shall commence the account of the epidemic of 1813, by setting down a few of the first cases, with a faithful account of their treatment.

It is generally admitted, that the whole of the Eastern-shore of Maryland, of which Talbot, and Queen Anne's counties make a part, is sickly, being addicted every autumn to intermittent and remittent fevers; but it was a fact beyond all contradiction, that the autumnal months of 1812, were uncommonly healthy. During all November, and the greater part of December, there was scarcely any thing like disease in Talbot! This great bane to human happiness seemed to be hushed to rest. The whole district of country appeared to feel a state of security, and tranquillity, so much so, that if there had not been a few chronic cases of disease; it would have been forgotten, that physicians were necessary appendages to society! It was in our attendance on one of these distressing cases, about the 20th of December, that Dr. Tristram Thomas, and myself fell into conversation on the subject of the unusual healthiness of the preceding season, and particularly that of the present and last

month, when we were both of one opinion, that we had never known a more healthy time.

On the 24th of December 1812, I was called to visit Hannah Martin about 27 years old, late in the evening, eight miles from Easton, in a southerly direction, who being the mistress of a large family, after more than usual exercise on the preceding day had gone to bed early, and was taken about 12 o'clock at night with a violent ague, which was succeeded as was believed by as violent a fever with all the common symptoms of pleurisy. A neighbouring physician was called in before day, who considered the case a plain one, and bled her largely, to the quantity of more than a pint. When I saw her after night, she was comotose; her face flushed; skin dry and hot;* tongue moist, and to appearance as well as in perfect health; pulse feeble, complained when roused, of nothing except a violent pain in the head; but upon being interrogated, and desired to make a full inspiration, she said, she felt a pain about the sternum, and some stricture across the thorax, as well as a degree of heaviness and fullness there. At first view there was an appearance of something singular in this case, though I confess I did not from habit, take time to consider it as any thing new, or extraordinary. I commenced the treatment upon the symptoms, but never thought of deviating from the usual mode in such cases. As the pulse was such as not to indicate the use of the lancet, and other symptoms did not seem to call for it, it was not used at all; but nauseating doses of vir. antimon. &c. &c. were used freely. Blisters were not spared; and as it seemed to be soon indicated, a decoction of bark with serpentan. virg. was administered liberally, together with a sparing use of wine and toddy. The chamber contrary to my desire, was kept warm, which, I have not the least doubt, was a most fortunate circumstance, as may appear before long. Her bowels were moved with difficulty throughout the whole course of her illness, another lucky circumstance. She never expectorated freely, and yet she recovered unexpectedly, though slowly.

* The feet were not attended to.

On the 25th, I visited William Brown, a black-smith in Easton, of very intemperate habits, about 30 years old. He had been ill a day or two. His pulse was full, but neither very hard, nor frequent; his face was much flushed, and he complained greatly of his head, and of nothing else until interrogated, as in the case of Hannah Martin, when he said, he had a pain in his side, &c. He was rather comotose, but rambled in his sleep. His expectoration was inconsiderable, and had nothing unusual in its appearance. Under a consideration of all these symptoms, I did not hesitate long about taking away blood from the arm, but contrary to expectation, before I had drawn off half the quantity at first intended, the pulse sunk, and I found myself under the necessity of stopping short of eight ounces. Though I saw him two and three times daily, I did not venture on bleeding him the next day, but thought myself justified from the symptoms, to venture on a second bleeding on the 27th, but with the same result. In the evening of this same day, he was very delirious; stole out of the house, and wandered on the commons some time before he could be found. On the 28th I bled him again, which he bore much better. On the 30th he was bled, but never with those pleasing effects, which I have so often experienced in former years, and on former occasions. He was blistered on his sides, back and head, and went through the usual routine of antimonials, &c. which are so common in cases of pneumonia in ordinary seasons. But after depleting to some extent, and finding my patient sinking, I reflected on the stimulating habits of the man and did not hesitate long, before I saw the necessity of altering my course, and of supporting sinking nature by a free use of diffusible stimulus, which, perhaps, were the principle means of rescuing him from the jaws of death, though it might have contributed to have confirmed him in old and bad habits.

On the 29th I was called on to visit John Burgess, 54 years of age, intemperate, and much addicted to the gout, living three miles from Easton in an easterly direction. He had been bled in the morning by a young physician rather freely; perhaps, in a high fever, but when I saw him, his pulse was hardly per-

ceptible. Himself and his wife thought he had been taken the night before with the cholic, but that could not have been so; for from their own statement, he was taken with an ague some time in the night, and had been chilly, and cold from that time. I thought it advisable to do nothing more than give him forty or fifty drops of laudanum, and direct hot bricks to be applied to his feet, and something warm to his stomach, where he complained of some pain; and left him not to see him again, unless sent for. I understood he was visited the next day, or day after by some other physician, but too late to arrest the hand of death. The 7th of January 1813, I was called on by one of his neighbours to visit Thomas Custallo, eight miles from Easton, directly north, but found him dead. I understood be had been sick only three or four days, with a *pleurisy*, and that he had been bled more than once. No doubt, this was a case of the epidemic.

On the 14th, I saw a small boy, son of the late John Burgess. His face was much flushed, his fever was high, and he complained very much of his head; and a little of his side when desired to make a full inspiration. I bled him, and gave him some antimonial medicine, and though the pulse sunk, while the blood was flowing, he soon recovered without any further medical aid.

On the 15th, I visited John Higgins in Easton. He was taken the night before, with an ague succeeded by a fever, pain in his head, side, and all the ordinary symptoms of pleurisy, and yet he repeatedly expressed an opinion, that though he had been addicted to the pleurisy almost every winter or spring, yet his feelings were different from any thing which he had experienced before. I did not bleed him immediately, but determined to wait for the bleeding point, and then was disappointed as to the happy result, for his pulse evidently sunk before I had taken as much blood, as the occasion seemed to require. For two successive days I bled him, and went on with nauseating doses, blisters and anodynes at bed-time, not thinking venæ sectio indicated again, before the 20th, when he expressed relief, before the arm was untied. On the 7th day from

the first attack, he complained of a pain in his ankle, which was succeeded by severe inflammation, when all the symptoms of pleurisy gradually went off, and his whole attention was directed to his ankle. The inflammation terminated in resolution.

On the 16th, Robert Huzza came across the street from his house about 10 o'clock at night, requesting me to see his wife. She had been taken the night before with symptoms, which were beginning to be familiar to several families, though not as yet alarming. Mr. —— was called in because he could *bleed, and give calomel and jalop.* She was bled in the morning. and took calomel and jalop, which operated violently. She ceased to exist long before the beginning of another day.—

About this time the alarm began to spread, not more on account of the death of Robert Huzza's wife, than from several other sudden deaths in Easton, and its vicinity. Bleeders were called in as soon as a patient was taken ill; more particularly as the disease assumed scarcely any other type, than that of pleurisy; and as the lancet had been proved on former occasion and seasons, it was expected it would retain its virtues, but alas! all things are uncertain in this world, and nothing more precarious than a remedy, which is administered without caution, and without judgment. This is proved unfortunately on ordinary occasions, but the history of epidemics ought to be a lesson to physicians, who ought to use the lancet with fear and trembling, whenever the seasons usher in a disease of any type whatever. Though this epidemic fever had been stalking along in formidable disguise, it had until now been productive of but few deaths, and I can assert without a fear of contradiction, that the numbers would have been much fewer, if the lancet had not been "wielded by chance," and not by the steady hand of judgment. When I was called to a patient about this time, I was too often mortified to find, that any judgment, which I had acquired from experience, was rendered useless by an indiscriminate use of the *lancet, or a dose of calomel and jalop*, which continued to be the first and last resort, notwithstanding deaths were multiplied every day.

and few recovered, who were attacked violently. I will candidly confess, that though I was staggered in my unbounded confidence in the lancet, yet like all others wedded to *system*, I continued to use it in almost every case, which seemed to indicate it, but with caution, and due reflection, aiming like Dr. Rush to hit "the bleeding point" both as to time, and quantity. Like others I plunged along through all January, and a great part of Febuary, before I could be induced to consider this unrelenting disease as an epidemic sui generis, differing in its origin, and effects on the human system from every other disease, which had appeared before in this part of the country, but not unlike a disease, which had recently made its appearance in several of the New England states, exciting alarms, and proving in too many instances malignant and mortal.

When this Epidemic commenced its career in December 1812, it was in the type of Pneumonia, and continued so with very little variation, (if my observation was correct, and I am confirmed in it by the testimony of the most experienced physicians in Easton) through all January, down to the 20th of Febuary, when for the first time, and in the first case in that neck of land, I was called to visit William Blake, over Miles River Ferry, who had been taken the night before with an ague, succeeded by a fever, and sore-throat. It was then snowing, and blowing most dreadfully, which with the risk of crossing the ferry deterred me from visiting him until the next day, when I fonnd him in a smart fever, and labouring under all the other common symptoms of synanche tonsillaris. I was told, he had got a neighbour to bleed him the preceding evening, and thought himself relieved by it. I repeated the same remedy, and directed a dose of salts to be given in divided doses, promising to see him the next day, when I was mortified and disappointed to find him much worse! His tongue was now so much swelled as to be protruded out of his mouth. Yet I did not despair of affording him speedy relief having seen several such cases, as I conceived, happily terminated by topical bleeding. In this however, I was greatly disappointed. Upon

examining the part affected under the tongue, I could see none of those numerous veins, which had been so visible, and so readily opened on former occasions. They were entirely obsuned by an *effusion of serum* under the sneiderion membrane. Yet I was confident of relieving him, if, perchance, I could divide a vein, and therefore boldly plunged the lancet in, and through the membrane, and serum, but to little purpose, as scarcely any blood flowed from the several punctures! The pulse being full, though not hard, and topical bleeding having failed, I ventured on taking blood from the arm, omitting none of the usual remedies at the same time, which I thought could relieve him except a blister ot his throat, which was improperly, though I have not the least doubt in vain, reserved for the next day, but alas! I had the mortification of seeing him no more. There is not the least question with me, that the "*effusion of serum*," which was so visible in his mouth. had in a very short space of time extended to his lungs. and thus suddenly, in all probability, closed the avenues of life! This was an instructive case, which raised reflections, and considerations, which heretofore had not been pressed upon my mind. I began to view the subject of the "*prevailing complaint*" with new light under whatever shape it might appear, and to reflect, that there was something new, and extraordinary in the several cases which had come under my notice, as well those, which had terminated in recovery, as those, which had been fatal in their issue. The lungs had most generally been the seat of the disease, and "*effusion*" had invariably been its termination. From hence I concluded, there was *something in the air, or something deficient in its qualities*, which had been and still was the cause of the disease, and that that cause was singular in its effects, or at least they were such as had not, except in a few sporadic cases ever came under my notice before. In truth. that, though I had succeeded in most cases, (where there had not been any interference of others,) merely by close attention to the symptoms: nevertheless I had heretofore incorrect ideas of the nature, and treatment of the disease; and that, though it had assumed the leading and characteristic symptoms of the various types of pneu-

monia, which had, as I conceived, been familiar to me for nearly thirty years; yet I had been mistaken in the exact, and correct mode of treating the epidemic under this type. The observations I had made upon the cold stage of the fever more especially as to its duration, had begun early to give a new direction to my reflections, and to cause the necessity of adopting the method of cure to the nature of symptoms, which has been a constant rule in my practice from its earliest date, as may be perceived in the treatment of those cases, which had ushered in this extraordinary epidemic at a time, when the most knowing had not expected any thing beyond the usual routine of annual complaints.

Though the symptoms of the epidemic have been in a great measure delineated in the history of the several preceding cases, which, as was just observed, had ushered in the disease; it will nevertheless for the sake of order be necessary to give as accurate a description of it as possible, and to endeavour to distinguish it from other diseases, notwithstanding it was accustomed to assume the form of all other diseases to which the human body has been subjected, which is nothing more than saying that every "type of disease partook of the nature of the epidemic," because the *remote cause* of all was the same. But inasmuch as it cannot be expected under these circumstances, that any disease to which we are liable can be described; it will be deemed proper to select the type of disease, which was the most common, and at the same time the most fatal: therefore I shall content myself with describing the *epidemical pneumonia*, considering all others of minor consideration, except synanche.

It does not appear from any observations, which I was capable of making, that there were any premonitory signs, or symptoms, which indicated an approaching attack of this disease. Patients were seized at all times of the day, but more generally, as in ordinary pleurisy, sleeping in bed, while the least insensible to external stimuli, and in a state of the most fatal security! As in all other fevers it commenced with an ague, seldom violent, but of protracted duration; and though the patient might soon cease complaining of sensations of cold, the

external surface of the body had in the most dangerous cases a cold feel, and in almost all while the other parts might be warm to the touch, and the face flushed, the extremities, *more especially the feet*, would have an icy feel, if some warm applications had not been made to them. Indeed in the most advanced stage, it would most generally seem as if the patient was insensible to the cold, complaining at the same time of great *internal heat*. If he were asked, if his feet were cold, the answer, nine times out of ten, would be in the negative. If hot applications were made to the feet and removed, they would soon become cold again. In fact it was difficult to determine, whether the cold stage in the most violent cases, was even completely succeeded by the hot stage, until symptoms of recovery were actually apparent.

The face was flushed from the very beginning, though most other parts of the body were cold; and the head in every type of the disease, was most violently complained of, if the patient complained of any thing, insomuch so, that the epidemic very early in the season, got the name of the "*head complaint;*" for though he might have a pain in the side, it was rarely he complained of it, unless interrogated concerning it.

If a cough and common cold, had not been hanging upon him before the formation of the disease, it was sure to come on very shortly afterwards, when he would sometimes complain of pain in the thorax, though very seldom, unless questioned on the occasion, and requested to make a full inspiration.

The respiration was, generally speaking, free and easy, from the commencement of attack, unless, as was too often the case, the economy of nature was disturbed by some improper *interference*, which might, and did in many instances bring on an "*effusion of serum*" in the lungs, before a determination could be made to the skin, when it became quick and laborious, and a sure presage of a fatal termination.

Expectoration of mucus from the lungs was among the first symptoms of their affection, and was rarely copious, except when it was bloody, which was an unfavourable sign, though not a fatal one, as in the case of *quick respiration*.

The pulse was frequently full, even when the cold had not been completely succeeded by the hot stage, and was sometimes feeble, when the external surface was rather warm. It could never be said to be hard, and very seldom quick. Very frequently, if other symptoms were not attended to, it might be said to be a healthy one from the feel. In fact, when the epidemic began to be better understood, it ceased with me to be a sure guide in the treatment of topical affections of the lungs, and every other type of disease; though it had been almost unerring in its indications in hundreds and thousands of cases before this period: For when it would seem to indicate in some cases, from its fulness, the loss of 24 oz. of blood, it would begin to intermit before three ounces were taken away, and not unfrequently cease to beat before five were abstracted.

The blood never flowed freely, and was invariably of a dark livid colour, and yet had very much the appearance of pleuritic blood in former times, which had been considered as a test of violent "*inflammation.*" I have known it stand for hours, without separating into crassamentun and serum, fully demonstrating to my view of the subject, that it had not acquired in its passage through the lungs, a sufficient proportion of that vital principle from the atmosphere, which could make it active and properly vital.

The skin in some violent cases would be cold, but in others scorching hot, while the feet and hands, as has been before observed, would be cold. At other times, it would feel soft and cool, while the patient would complain of great INTERNAL HEAT. It would feel warm, while covered by bed clothes, but upon the least exposure, it would become cool; and put on the appearance of *goose flesh*, when the surrounding atmosphere was rather of moderate temperature.

The stomach was rarely disordered at any stage of the disease, but on some occasions, and in some instances, it became extremely irritable when considerable quantities of bile, and tough mucus were ejected, which I never have considered as

an indication of any thing unpromising, though it might sometimes have proved troublesome.

The *bowels* were disposed in most cases to remain quiescent, unless disturbed by improper treatment; from whence as much *mischief* might, and too often did arise as from *bleeding*. The one could be instantly restrained, the other was generally beyond controul.

The urine was in almost every case free, and often copious, but could not be considered as in ordinary pleurisy, a favourable sign. In fact there was neither sign, nor symptom, from whence any thing favourable could not be prognosticated except a warm moisture of the whole body, which was seldom excited by *nature*, but very readily by art at the *earliest commencement of the disease, but with great difficulty afterwards.*

In whatever type of disease this epidemic fever might have appeared, I think, I can assert without a fear of contradiction, that the above description might be applied to it, with the exception nevertheless of the symptoms peculiar to affections of the lungs, and adding at the same time, those which are peculiar to the several parts or organs of the body, when disordered; so that it may be said of this epidemic, what Sydenham has said of the epidemics of his day, viz. that "all other diseases, partook of the nature of the epidemics," for this plain and obvious reason, they all proceeded from the same

REMOTE CAUSE.

But this great man seems to think an "investigation of *remote causes*" of no importance, and little short of a "loss of labour," inasmuch as "they are undiscoverable."

Before we proceed, it may be of consequence to describe the extent of country, which this epidemic occupied, and know, whether there was not an *invisible power*, which seemed to say, "*thus far shalt thou go, and no farther*," when the reflecting and candid reader, will have an opportunity of judging for himself, and of determining, after he has heard the whole matter, whether there may be any use in tracing causes, and the effects

of those causes on the human body. Certainly at this æra of philosophical enquiry, when a disease is prevailing, and it is obviously the effects of a *peculiar cause*, while those effects are of a very extraordinary and singular nature, it cannot be deemed presumptuous, nor unphilosophical to attempt an investigation of that cause; more especially when it is considered, that too many are in the constant habit of referring *the cause of all epidemical diseases to contagion*, which at one dash cuts up all further enquiry, to the no small injury of *medical science, and the cause of humanity.*

While the epidemic of 1813 has been seen springing up insidiously in every direction of my small circle of practice, it was at the same moment bursting forth throughout all Talbot and Queen Anne's Counties, scarcely touching on the banks of Choptank on the Dorchester side, doing no injury beyond the village of Cambridge, in a manner altogether desultory. Perhaps, it did not reach the opposite banks of the Tuckahoe, which divides Caroline from Talbot county; then skirting along in zigzag direction the whole line, which separates the first named county from Queen Anne's, it probably stretched across to the head of Chester river, which is known to have cut it off from Kent county, and from the Western shore by the Chesapeake bay. These were the limits of this mortal epidemic; and I defy contradiction, while the mourning relatives of its numerous victims live in this *devoted district*, for beyond them there is scarcely one, who can be found to say, as here, I have lost a father, mother, brother, sister, son, daughter, or some one or more relatives.

That the remote cause of this epidemic was in the *atmosphere*, there can be no question; but why it should commence, and rage in the small section of country, and not spread into those parts contiguous to it, where the same causes apparently existed, so far as they could depend upon heat, cold, moisture, and every other sensible quality of the air, is a phenomenon both singular and extraordinary, and not very readily accounted for; more especially in this quarter of the country, where epidemic fevers in the autumnal seasons, are as familiar as the

seasons, which revolve around! These can be traced to certain sources, such as *putrid effluvia*, and *marsh miasmata*, but not so with this epidemic, which unexpectedly and insidiously commenced in the month of December from no visible source, and progressed with accumulated malignity throughout the remaining winter months, and all the spring months with very little if any abatement; and at a time, as has been just observed, when our neighbours were enjoying more than usual health; a circumstance truly astonishing, and a phenomenon, which seems to bid defiance to *investigation;* nevertheless the research is a laudable and useful one, and such as I conceive ought to be attempted.

Should I, like the learned, and the elaborate Noah Webster, Esq. descend in imagination into the bowels of the earth, and suppose noxious vapours, invisibly ascending from its dark and impenetrable caverns by the convulsions of *earthquakes*, I may be involved in mysterious speculations, and in the prejudiced opinions of some great men, very far from the correct road in search of the truth.

The epidemic commenced its career in cold, dry weather, and still continued a steady undeviating course through cold and dry, wet and snowy weather; and at a time when the changes of the weather, were the same throughout the whole Eastern Shore of Maryland, and yet its dominion was confined to its certain, and well marked limits, which have been well and accurately ascertained! Had the habits of the people been different, as to modes of living, or could it be shown, that this afflicted country was exposed to any visible source of disease, many difficulties would vanish, though I might be unable to account for the peculiar, nature of the disease, and its singular effects on the human body.

The epidemic being confined only to the country above specified, it at once becomes a reasonable supposition, that there was something in the *atmosphere* of that particular section, which did not exist in the parts contiguous; otherwise something could not have originated from nothing, nor could effects have been produced without an adequate cause. It thence

ceases to be a supposition, but a fact, that the cause was in the *air of the above limits*, and actually confined to those regions only; all idle notions of contagion to the contrary notwithstanding. But, if the cause was in the atmosphere as above stated! why was it not in the country contiguous? and why was it not extended throughout the whole of the Eastern Shore of Maryland, where the whole face of the country is very much the same, with some trifling variation? The temperature of the air is at all times nearly the same. There was probably, no difference as to dry, moist or frosty weather; and there is very little difference in the habits of the people. From all these considerations, there must have been *something* originated in, and arising from the earth in this particular region, which in some way vitiated the qualities of the *atmospheric air*, and made it unfriendly to human life, and the peculiar cause of this singular disease.

Hippocrates has laid it down as an established fact, "that "when any disease spreads generally, it is evident, that the "mode of living is not the cause, but what we imbibe in breath-"ing, which clearly retains some morbific quality." Dr. Sydenham also, though he has expressed himself with indifference as to the "*remote cause*" of epidemics in his preface to his very valuable, and important history of these destructive diseases, says, "there are various general constitutions of "years, that owe their origin neither to heat, cold, dryness, "nor moisture; but rather depend upon a certain secret, and "inexplicable alteration in the bowels of the earth, whence the "air becomes impregnated with such kinds of effluvia as sub-"ject the human body to particular distempers, so long as that "kind of *constitution* prevails, which after a certain course of "years declines, and gives way to another. Each of these "general constitutions is attended, with its own proper and "peculiar kind of fever, which never appears in any other, and "therefore," as he emphatically expresses it, "I call this kind "of fever stationary." *Such most explicitly was the epidemic in this particular quarter.*

Again "it must be observed," says this illustrious character, "that whenever any *constitution* produces various species of "epidemics, all these species differ in kind from those which "have the same name, but are produced in another *constitution.* "But how many peculiar species soever arise in one, and the "same *constitution*, they all agree in being produced by *one* "*common general cause*, viz. *some peculiar state of the air;* and "consequently how much soever they may differ from one "another in appearance, and specific nature, yet the *constitu-* "*tion* common to all of them, works upon the subject-matter "of each, and moulds it to such a state and condition, that the "principal symptoms (provided they have no regard to the "particular manner of evacuating) are alike in all. Hence," continues this *acute observer*, "we may see how various and "subtile a method, nature uses in producing diseases, which "no one has hitherto traced in proportion to the dignity of "the subject," and that though epidemic distempers, especially fevers, depend upon the secret *constitution of the air*, yet "those persons labour unprofitably, who deduce the causes "of different fevers, from the morbific matter gradually col- "lected in the body," &c.

Dr. Rush in his note on the above paragraphs observes, that "the existence of a morbid *constitution* of the air, and depend- "ing upon matter of some kind has been admitted ever since "the days of Hippocrates. Our inability to discover its pre- "sence, is no more a proof of its not existing, than our ignorance "of the precise nature of fire, furnishes an argument against "the existence of light or heat, which are connected with it."*

Vanswieten in his commentaries on Boarhaave states, "that the cause of epidemics is to be sought for in the air. But "to ascertain what that is in the air, which does the mischief, "is a matter of very great difficulty." Dr. Boarhaave himself declares, that though "the weather, climate, season of the year, "soil, the sea, lakes, marshes, rivers, vapours, exhalations, and "meteors do induce such a charge in the air as to render it

* Vide Sydenham, page 8.

"capable of creating various diseases, not depending on the "natural constitution of the air, or its properties, or qualities, "but on the nature, and efficacy of a mixed substance." And therefore says his commentator, "although the qualities of the "air are by no means to be neglected by a physician, when he "is considering diseases, yet they do not seem sufficient to give "us an insight into the original cause of epidemic diseases."

Marsh miasmata, and putrid exhalations produce diseases every autumnal season in this unhealthy region, but it cannot be supposed, that an epidemic in the winter season could have been influenced by such causes, because they could not have existed here more than in the parts contiguous. Vansweiten observes nearly to the same effect, and that "although it can- "not be denied that putrid exhalations are noxious, and pro- "duce disorders, yet it is no way certain, that all epidemic "diseases are produced by putridity."

From all these high authorities, as well as the subject now before us, it seems plain, and obvious, that many epidemics do arise from "*hidden causes*," which the great Boarhaave asserts, are "inexplicable and that those causes are not always from putrid exhalations, but from the "*earth*" independent of "*putridity.*" If from the earth and not from putridity, it surely will not be considered unphilosophical to attempt some investigation of a subject so curious, and important to the health of man, more especially as this epidemic has been confined to so small a portion of the earth as herein specified.

From the earliest ages earthquakes have been supposed to have had great influence in the generation of epidemics by extricating *something* from the earth, which vitiates the atmospheric air, so as to render it unfriendly to animal life. "Sen- "eca asserts, that pestilential diseases usually follow great "earthquakes. He supposes the air enclosed in the earth to "become vitiated, either by stagnation, or through the defect of "internal fires, ab internorum ignium vitio. He thinks, this "air when forced into the atmosphere, renders it impure, and "unwholesome, generating new kinds of diseases."

It would be tedious to cite all the authorities, with which

history abounds, to show that it has been a general opinion among the learned of all ages, and countries, that *earthquakes* have been the means of evolving *something* from the "*bowels of the earth*," which has vitiated the air, in some way or other, so as to be productive of diseases of various descriptions. The learned Noah Webster has investigated the subject more fully, and satisfactorily than any other writer of the present, or former times. He deserves great credit for his deep and elaborate enquiries, which must carry conviction to the understanding of every man, who will take the trouble of going through his useful history of "epidemic, and pestilential diseases." In truth, I might say, with a reverend and very sensible friend of mine, who commenced reading this important work at my request, but with great prejudice on his mind, "*conviction will be forced upon him* *." Being persuaded, that his reasoning is more powerful than any thing which could fall from my pen on the causes of epidemics, I shall take the liberty of extracting a few paragraphs, and consider them in a chain of my own reasoning in cause, and effect.

"It will not," says this illustrious character, "escape the "notice of the most inattentive reader of the foregoing history, "that all the violent, and general plagues have been preceded, "with remarkable phenomena in the physical world, as comets, "earthquakes; explosions of volcanoes, and others of a subor- "dinate kind.

"We are to admit, with great caution the influence of the "planets, in producing the calamitous diseases, which at peri- "ods afflict mankind. It is an influence very uncertain, and "undesirable. It is not indeed unphilosophical to suppose, the "several immense orbs, that compose the solar system, to have "an influence on each other by means of the great laws of at- "traction, and repulsion. The contrary supposition would be "most unphilosopical. But it might be very difficult to ascer- "tain precisely what that influence is, because it might not be

* The Rev. Mr. Joseph Jackson.

" possible to separate its effects from those which are produced " by other causes.

" The ancients went much too far in ascribing events on this " earth to planetary influence. They ascribed not only natu- " ral, but moral effects to that influence, and by their extrava- " gant system of judicial astrology, brought into contempt the " study of the influence of heavenly bodies.

" We are not however to discard all considerations of such " an influence. We are naturally led to suppose, that all parts " of our system are connected by principles of attraction, and " that a certain order and equilibrium are necessary to keep all " parts in due harmony. It is very obvious, that the moon has " a most natural influence in regulating the seasons, and changes " of weather on this globe, especially the weekly, and monthly " vicissitudes. The more distant bodies may have a similar " effect, though less obvious." Then quoting the authorities of Claudian, Aristotle, and Pliny, of the ancients, he comes down to more modern times, and establishes it beyond all possible contradiction, that comets have their influence in producing effects on the terrestrial globe, particularly by earthquakes, which become the means of evolving *something* from the earth, which vitiates the air, and is the cause of epidemics.

" It has sometimes happened," he adds, " that in those con- " vulsions of the earth, a vapour has been extricated, which has " produced immediate disease," and further, "*the idea that new,* " *and unknown species of diseases follow earthquakes,*" and "*if* " *well founded, leads us to suspect, that the changes in the* " *character of diseases are attributable to the various action of* " *the electrical fluid.*" But whether the change in the character of disease proceeds from electricity, carbon, or any other subtle matter evolved from the earth, I hope to make it appear, that a change must be made first in the air itself, before disease can be produced, unless when it acts instantaneously by its deliterious effects; and it is to be presumed, that can rarely, if ever, happen in the times of *epidemical and pestilential diseases;* for if that was really the case, every person around would become a victim to its effects; and in fact that some

change must also be produced by this same *remote cause* in the animal functions before it can generate the disease.

Atmospheric air is not an elementary body as the ancients have supposed, but a compound, as the moderns have proved; of course, it must be susceptible of changes. It is more than probable, like all other compounds, it does, upon the application of some other body, or bodies, undergo some kind of *decomposition*, but how this is effected in the great laboratory of nature, may forever be hid from human investigation. Be this as it may, it is, nevertheless, well understood, that there is *a vital principle in atmostpheric air*, which is absolutely necessary to human life. Deprive it of this *vital*, and component part, and it instantly ceases to support life; so also, if it is by any means diminished in quantity, the vital functions begin to languish in their energy, and in a little time are unable to support life without the aid of some artificial stimuli. On the other hand, it is a fair presumption, that this *vital principle* may by some other cause be encreased, and act with too much force as a stimulus. In either case the doctrine, which supposes *animal heat to arise from a decomposition of oxygen air in the blood*, is greatly strengthened; as the effect in either will be in proportion to the generating cause, that is, if there is too little of the vital principle, cæteris paribus, there will be *a deficiency of animal heat generated;* and so on the other hand, if there is an even proportion of oxygen in the air, the human body every day runs the risk of being stimulated into extraordinary action. Fortunately in either situation, there is a principle in the animal economy, which gives it a capability of accommodating itself to these charges in the "*constitution of the air*," and here it is, that some, however violent the cause of the epidemic, or pestilential disease, escape the power of its influence.

Whilst all the organs of the body remain sound, and their various functions harmonize together, the human body may for a great length of time resist the *remote* cause of the most inveterate disease, unless some one function should be disordered from some contingent circumstances, or as the old writers used

to express it, *by an abuse of some one of the non-naturals.* Now as the lungs are the immediate organ, through which *animal heat is generated*, they become more liable than any other organ of the body to be the primary seat of disease, and hence it was in 1813, that the lungs were more generally affected than any other part of the body.

From all these circumstances, and considerations, I am led to believe, that though I may not have gone into an investigation of the subject fully, and completely, nor have altogether explained it satisfactorily, the *remote cause* of this epidemic was *something arising from the earth* in consequence of some great convulsion in the bowels of the earth,* which took place

* In the autumn of 1811 a comet appeared, and continued to be visible until the January following. On the 12th day of February 1812 a few minutes after nine o'clock, a shock of an earthquake was felt in this town, Easton, and generally throughout the whole epidemic district. Many persons staggered, and were ready to fall down; others were made sick at the stomach; and some puked, who had just ate their breakfasts. Several were alarmed by the weights of clocks striking violently against the sides of their cases. The same shock was distinctly felt on the third, or fourth day after the first.

Perhaps, it will be explained, and satisfactory reasons assigned, why the effects of this earthquake did not at once break out, but were deferred to the next winter, ten months afterward.

Though the earthquake did not continue, there can be no sort of doubt, that its effects were frequently perceptible, particularly, during the rage of the epidemic twelve months after. It was repeatedly observed to me in the winter of 1813, that a disagreeable smell was every now and then to be perceived, not unlike gun powder. One gentleman observed to me, that at two several times, when he had crossed Miles river, immediately on his landing on the opposite shore, he smelt something like bilge-water. Another was impressed with the idea, that the smell and smoke of gun powder had been wafted by a southerly breze from the British fleet which, was laying sixty, or a hundred miles down the Chesapeake bay; because he did not take time to reflect, and attempt to account for this extraordinary phenomenon in some other way. It is true, these circumstances were not noticed by every body, neither was the earthquake. I was in Easton at the time, and not sensible of the first, or any other of the shocks. Probably, I might have been walking the street at the time, and might have been

eight, or nine months previously to its commencement, which *something* must have altered, or decomposed the atmospheric air, and thus deprived it of a portion of its "*vital principle*," by which means effects were produced on the human body, which constituted a disease sui generis, differing from diseases of the same type, which had been familiar to physicians, time immemorial, in this part of the world: and as the remedies were different, that is, instead of the depleting, and antiphlogistic plan, an opposite one was discovered to be exclusively beneficial, I conclude, the cause was not *positive*, but *negative* in its effect, because the air was partly deprived of its "*vital principle*," and of course acted *negatively*. But inasmuch as the *remote cause* did not act instantaneously from its being a *negative*, and not a positive, there must have been, as there is generally in an opposite state of the atmosphere.

PREDISPOSING, AND EXCITING CAUSES.

That the human system from its very nature, and constitution is constantly varying in the regularity of its functions, by

as inattentive to that as I was afterwards to the vapours, and sulphurious smells. It is true, that I have at all seasons of the year been assailed by disagreeable smells, but I never stopped to enquire into the cause of them, so regardless have I been of every thing, which did not strike my senses more forcibly!

The Rev. Matthew Wilson in his letter on an epidemic, which prevailed on Indian river in Sussex county, Delaware, in 1775, which will be noticed in its proper place, observes, "the causes of this malady "are not easy to be determined. Permit me to offer some conjectures. "So dry, and warm a winter has not been known in the memory of the "living." (Though in the very next paragraph he makes the thermometer vary 30 degrees in a very few hours.") "The air has generally "been full of a dry smoky vapour. It is to be wished philosophers "would investigate this phenomenon. To raise such smoke from fire, "would require almost a general conflagration, all Ætna could not do it." See Noah Webster on the year 1775 with regard to the general convulsions of the earth, &c. who amidst his great researches, had not an opportunity of seeing this valuable paper on the epidemic of Indian river.

which the harmony of the whole may be disordered, must be sensibly felt at times by every man, but more especially when he has been guilty of the slightest indiscretion in eating, drinking, or exposure of any kind; all which tend to predispose the body to various disorders. But when a number of persons, at the same period of time, are similarly disordered, though their observations in the *non-naturals* may have been very different, it at once becomes a reasonable enquiry, whence does all this proceed? There must be *something* common to all which disposes so many to be similarly affected, while others again are not at all, or but slightly disordered. This, as stated above, is called the *remote cause* of disease. Could this cause possibly be removed, its effects would cease! But while this exists, it must gradually undermine the health of all such as are exposed to it, and gradually predispose the system to be affected by such causes as are very properly called *exciting causes;* among these more particularly must be considered *cold*, which being a *negative*, must be also taken in the same point of view as the *remote cause* of the epidemic, and consequently as a predisposing cause also.* But inasmuch as the degrees of cold were the same at all times in the neighbourhood of the *epidemic district*, it could only be considered as an adjunct predisposing cause which could have had no effect without the aid of the *remote cause*, and of course acted only conjointly with that cause in disordering the system, on some one of its functions which was most generally that of *respiration.*

It has been observed in the preceding pages, or it ought to have been so observed, that persons were taken with symptoms of the epidemic most generally immediately upon any sudden transition to colder weather; of course, cold might be considered, and most certainly was an exciting as well as the most general predisposing cause went to the *remote cause*, as above laid down, while intemperance, fear, and some other passions of the mind, joined with extreme abstinence, acted partially as

* This will be more fully explained, and perhaps better understood, when the rationale of the cure of the epidemic is gone into.

predisposing causes, and very frequently in conjunction with cold as powerful exciting causes.

This view of the subject is confirmed by a number of circumstances, and facts. 1st, Strangers coming among us, in no one instance, were affected by the epidemic. 2nd, All those, who were careful in avoiding the exciting causes, which were cold, fear, and other passions of the mind, intemperance, and too great abstemiousness, with very few exceptions escaped the disease, or were only slightly disordered by it. 3d, There were many amongst us, as at all periods of the reign of epidemics who were so fortunately constituted as to resist the power of conjoint causes, inasmuch as no change had been induced during that period; thus demonstrating, that the transition from health to disease is always gradual, until the *predisposition is formed*, by which means the body becomes susceptible of morbid impressions; or in other words a morbid *excitability* must be generated before a *morbid excitement* can be produced. Cold, and all the other exciting causes, above mentioned, have at various times predisposed the body to numberless diseases, but the epidemic having exhibited itself in a character peculiar to itself, from the *negative qualities* of the *remote cause*, it follows of consequence, that the *remote cause* was the principal *predisposing cause*, while *cold, and the other causes*, just stated, were the *actual exciting causes* in producing this epidemic, which assumed a character depending entirely on the nature of the *remote cause*. Hence a fair conclusion may be deduced, that all febrile diseases originate from, and depend on these causes, the *remote*, as a sine qua non, predisposing, and exciting causes, and that the *remote*, and exciting do generally act on the system in such a way as to become the predisposing causes.

The principles thus attempted to be established will appear in still greater force by reflecting maturely on the rise, progress, and termination of this epidemic of 1813, and by learning at the same time, that it recurred again wiith all its characteristic symptoms, and phenomena, as soon as the cool frosty weather set in early in the month of November of the same year, demonstrating that cold as an *exciting cause* was absolutely

necessary to create this peculiar disease, and that had not the *vital principle in the air been deficient*, the effects of cold, and of the other exciting causes would have been different, exhibiting at the same time nothing peculiar, or unusual in its rise, progress, or termination, more than what had been familiar to the people, and more especially so to any experienced physician in this quarter.

As corroborative of the sentiments just expressed, Vansweeten in his commentaries on Boarhoave very aptly quotes the following sentence from Galen, viz. "*In our bodies, as it "were purposed for disease, some external adventitious circum-"stance kindles a fever, which would not of itself generate a "violent disease &c. yet from the* DISPOSITION *of the body, "every one of these is rendered, not the cause of the disease, but "the occasion, those causes have been called the* ΠΡΟΦΑΣΕΙΣ. "Whence" says this learned commentator, "errors committed "in point of diet may indeed predispose the body to be affected "more easily, and more severely by any occasional, or exciting "cause, but without that, will never alone occasion an epidem-"ical disease. If for instance, a person should get very drunk "at a season of the year, when no quartan agues made their "appearance, he would not get a quartan ague, but at another "season, when quartans were epidemic, he would be attacked "by that distemper even from a much less error in diet. Where-"fore," he continues, "Galen has laid down the following "observation: *It is always necessary to remember, throughout "this whole discourse, that no cause can affect without a* PRE-"DISPOSITION OF BODY; *otherwise all who are exposed to the "rays of a summer sun would be seized with fevers as well as "all those who use too much exercise, are passionate, or griev-"ed. Moreover all would fall sick, during the dog-days, or die "of the plague.* In the mean while, no pestilence has ever "been so violent as to kill all: for many, though constantly "exposed to the contagious effluvia have escaped being infect-"ed; in whom therefore their did not exist a *predisposition* "to receive the infection. Persons who have once had the "small pox, have undergone such a change, that they are very

" seldom capable of receiving the variolous infection a second " time.

" We may therefore conclude, that this exciting, or pro- " catarctic cause is not to be sought in the abuse, or defect of " the six non-naturals; but that it is far less obvious, so that " the most experienced physicians have often acknowledged, " they were wholly ignorant with respect to this *latent cause* " *of epidemics, which only shows itself by its effects on the* " *human body*, while its specific genius is unknown.

Thus much for *absolute causes*, without which mankind would live in health almost uninterrupted, and have their days prolonged to years, perhaps, equal to those of the antideluvians, before this globe had undergone changes, which are every where visible, from *one general deluge*, and the great convulsions from *earthquakes*, &c. which are continually going on in its bowels from the centre to the surface, which we inhabit. These causes are yearly, and daily showing their effects on the bodies of men, while the grand occasional cause, generally called the *remote cause*, is too often hid from human *investigation*. But I would fain hope, Dr. Sydenham to the contrary notwithstanding, that my " labour will not be in vain, though I may " attempt to deduce the rationale" of the epidemic *from the effects of the cause*, while I am well assured in my own mind, that much light may be thrown upon the method of cure by a proper and correct consideration of the " *remote cause*."

But physicians have been in the practice of considering another cause, which, as being supposed " *nearest to the disease*," has been denominated the

PROXIMATE CAUSE.

The reason why the subject has been taken in this point of view, I confess, has never appeared altogether satisfactory to my understanding, yet it must be admitted, that inasmuch as every disease must originate from a cause in the body itself, or *remote* from the body, there may be some correct foundation for this practice, when it is considered, that there is a vastly

wide difference between a cause acting on inanimate matter, and acting on a living body : in the one, if the cause is removed the effects will cease, in the other, though the cause shall be removed, the effects will not cease, because motions are excited by the cause, which do not afterwards depend on the application of the same cause. Hence, doubtless, has originated the idea, as well as the practice among both ancients, and moderns of searching for *something* in the system, which is the cause of the continuance of disease, and more especially of febrile disease, called the *proximate cause*, as being " nearest the disease itself."

I feel myself indisposed to controversy, therefore I shall not touch upon the opinions, nor theories of others on the subject of general fever, but shall venture directly upon the *rationale of the epidemic*, and leave it to the unprejudiced reader to determine, whether hints may be dropt in the course of discussion, which may have a tendency to throw light upon a subject *abstruse and elusive*. It will be enough, and I trust satisfactory, if I explain to those, who are capable of understanding, in what manner the *remote cause* of the epidemic of 1813, produced its effects on the bodies of men with their continuance, and more especially so, if the explanation will lead, as I am persuaded it will, to the rationale of the prevention and cure.

The *remote cause* has been stated to be a *negative* in its effects on the human body, arising from a " *deficiency of pure vital air*," or oxygen in the atmosphere. This being a fact, it follows as a reasonable and philosophical deduction, that the principles of life, which depend on " air's pure essence," were necessarily weakened ; of course, the system became more liable to disorder. But inasmuch as animal heat depends on this same principle, it [the system] was rendered more liable to be acted upon *negatively* by cold and other predisposing and exciting causes; thus decidedly placing the epidemic in *the train of cause and effect*, making at the same time the cause altogether, and the effects in some measure *negative*. Assuming then as data, that " *animal heat is produced by a decomposition of oxygen air in the blood*," and that the lungs, being

indisposed to perform their functions, from a morbid change, induced by the predisposing causes constantly acting upon them, they must, as a necessary consequence, transmit less air, and that of *deficient quantity and quality*, to the blood in its passage through the lungs: of course less *heat* will be generated by *decomposition*, while at the same time from the above causes, the whole system will be more susceptible of the effects of cold, so much so, that if artificial heat is not supplied, a "*torpor*" must be produced upon the whole irritative and sensitive faculties, and thus the cold stage of fevers must commence. Now this happened at all times of the day, and under all circumstances during the dominion of the epidemic, but more especially in consequence of sudden changes from heat to cold, and after much exercise, or any improper exposure, or when all the animal faculties were sunk in the arms of sleep and insensibility, all which concurring with the *negative powers* so often mentioned, produced a more complete *torpor*, and thus formed the cold stage of the epidemic fever, which became more violent, and protracted according to the proper, or improper treatment from the beginning of the disease. The *disorder* being thus formed with the commencement of the cold stage, the difficulty arises, which Dr. Cullen says, "has eluded the research of physicians," but as just observed, I shall not attempt any thing beyond that of the epidemic.

It is laid down as a principle by the same great man, and daily experience would seem to confirm it, that "there is a "general law of the animal economy, whereby it happens, that "powers which have a tendency to hurt and destroy the sys- "tem, often excite such motions as are suited to obviate the "effects of the noxious power. This is the *vis medicatrix* "*naturæ*, so famous in the schools of physic; and it seems "probable, that many of the motions excited in fever are the "effects of that power." That there is a principle in the living body, not unlike the one here alluded to, there can be no sort of question. It is the *excitability* of Dr. Brown, and inherent in the system, "varying at different times in the same body," and as I now believe *in different seasons, and* "*consti-*

tutions of the air." I trust there will be a proper and comprehensive understanding of this part of the subject, as I conceive much depends upon it in the application of remedies, as I hope to make appear in due time, not only in the epidemic but in ordinary diseases, but more especially in febrile diseases. But to the point. Every person who exposes himself to the effects of cold, experiences the power of this principle more or less; for instance, in washing the hands and face, a *torpor* in some degree is produced in those parts, which as Dr. Cullen perhaps incorrectly, expresses himself with regard to cold, "becomes an indirect stimulus," or as I would venture to say, when the principle of irritability is suspended for a time by cold as a *negative power*, the parts become more *excitable* according to that law of Dr. Cullen or principle of *excitability* of Dr. Brown, and a greater action takes place in consequence of the state of exhaustion or suspension, though no other stimulus shall be applied, than what arises from the common *circulating fluid, the blood, and the natural diffusion of heat by that fluid.* The same principles applied in the cold stage of fever; the same results will follow; the system will endeavour to relieve itself by the same established principles. But in ordinary fever, the *excitement* has always been in proportion to the *excitability;* the cold stage being violent, the fever which has succeeded, has been generally proportionately so, so much so, that the life of the patient could alone be saved by restraining the violence of excitement by abstracting a portion of the *vital fluid.* In the *multiplied cases* of the epidemic, every thing appeared to be reversed, for there appeared strong presumptive evidence, that there was a *deficiency of oxygen air* in the atmosphere, to join the "*vital fluid,*" and thus to *generate heat by decomposition*, while at the same time there seemed to be a *predisposed indisposition* in the lungs to perform their function, as well as a want of *excitability* throughout the whole system; of course after the cold stage had commenced, the system generally had acquired an inaptitude, or an incapacity to assist in *generating heat*, and thus to keep up the ordinary circle of actions: hence it was, that a coldness of the extremities became a character-

istic symptom of the disease, and was disposed to continue throughout its whole course, unless artificial heat was applied to them. All this was corroborated from an attention to the established symptoms of the disease, as already described; for if blood was drawn from the arm, it flowed sluggishly, and of a dark livid colour, indicating according to my view of the subject a want of its accustomed and necessary *vitality*, while the pulse frequently began to intermit before three ounces of blood was taken away, and ceased to beat before five could be drawn off, thus demonstrating to the most common understanding, that the system was for the above reasons, at the same time deprived in great degree of its proper *excitability*, and as a necessary consequence, that the *excitement* would be irregular and languid. But before this period, when the "*pure vital air*" was in due proportion in the atmosphere, and the lungs not *indisposed* to perform their function, the blood was in the generality of cases of pneumonia, accustomed to flow with rapidity, and of a florid colour, indicating no *deficiency of* "*air's pure essence to dispart heat*," which was one of the most common symptoms attendant on fever; and further fainting was rarely attended with any pernicious consequences, as it seemed as if this *vital principle in the air* was disposed to rush into the circulation by the lungs to save the sinking patient, changing the blood almost instantly from a dark to a florid colour, while the patient would as instantaneously revive. In fact the change in the colour of the blood, used to be among common bleeders a sure criterion as they supposed, to ascertain when a sufficient quantity was taken away. Alas! in the epidemic this *practice* was *death*, and vast numbers fell victims under this mistaken treatment as well as every other, *which diminished the natural powers of the system.*

From this view of the subject, I trust it will appear clear, and obvious to all those who will give themselves time to reflect, that the epidemic of 1813 was the effect of a *cause*, as a sine qua non, which was *negative*, and that

THE PREVENTION

Was more in the power of the inhabitants of the section of country heretofore specified, than the ordinary diseases, to which they had been usually addicted; but alas! physicians, and mankind generally can never learn the truth but from fatal experience, which unhappily is too often perverted by false reasoning.

It is a common, though very correct observation as applied to mankind, that when the mind is *predisposed* to receive certain impressions, the slightest exciting cause will produce certain effects; just so with regard to the body, when it is already *predisposed* to disease by *certain causes* continually acting upon it, the slightest exciting cause will produce a disease in conformity to the nature of the *remote cause.*

Cold has been stated to be the principal exciting cause; of course if this could have been guarded against, very few would have been seized with this singular disease. Hence it was, that those, who were most exposed to cold without the means or precaution, of guarding against its effects, were too often the victims of the epidemic. Hence also it was, the poorer class of people were the greatest sufferers, while the rich, or those who were well clothed, and little exposed, were seldom taken down. All the *predisposing and exciting causes* being *negatives, or such as were calculated to diminish the animal powers in generating heat*, the principle, and indeed the only means of prevention consisted in aiding and assisting the natural powers by artificial means. These were warm clothing, keeping the feet warm and dry, avoiding exposure to cold, and sudden transitions from heat to cold; and lastly free but temperate living, more especially a moderate use of wine or ardent spirits! All these may be considered as equally useful, and necessary to guard against common *colds*, as well as every species of inflammatory disease, excepting the use of wine, or ardent spirit of every kind, for the reasons just assigned. In both cases, that is, of the epidemic and ordinary diseases, it is supposed that a *torpor* takes place; but in the one the *excitability* is diminished, in the other it is encreased,

so much so as to require the means of diminishing the excitement of the system. But why do I pretend to enter into particulars! If I am correct in the principles which I have attempted to establish, the method, or means of prevention must be clear, and strikingly obvious to every reasonable and unprejudiced understanding, if experience had not proved the great advantage in attending to the above plan, while it must be equally obvious, that the

CURE

Must be founded upon the same principles.

There is nothing, in which mankind is so materially interested as in the preservationof health, and the cure of disease. It is to be lamented, that there have not been, and it is probable, there never will be any fixed principles, by which physicians can be governed in the treatment of fever, which in the character of an epidemic, often becomes the greatest of scourges. It will be presumption in me to suppose, that the view I have taken of the subject of the epidemic of 1813, can lead to any certain indications of cure in all fevers. It will be enough if the indications become plain, in the cure of this peculiar fever, which as has been observed, most generally assumed the type of pneumonia, though every other type partook of the same nature, and was of the same character, as to their effects.

Diseases of the lungs have, by writers, been considered of that nature, as almost invariably to require, as early as possible an abstraction of a portition of that fluid, the blood, which is constantly circulating through them, as well as through every other part of the system. Most unfortunately for the people of this quarter, these notions prevailed not only amongst physicians, but the people themselves.

It is already seen, that I commenced the treatment of some of the first cases, which came under my notice, according to established practice. I am ready to admit, that the success, which attended this early practice, was accidental, as I was really

ignorant of the nature of the disease, or rather of its character. I have now learnt, what every other physician ought to learn, that the correct mode of treating disease, but more especially febrile disease, consists in two things, or rather circumstances, viz. a knowledge of the constitution of the atmosphere, and the *excitability* of the system consequent, or depending on that "constitution" at the time of its prevalence.

From the earliest commencement of the epidemic, it was very obvious, that though the pulse seemed to indicate, together with other apparent symptoms, a loss of a considerable portion of blood, these symptoms were deceptive. I have endeavoured to prove, that this circumstance *originated* from a *deficiency in the vital principle of the air;* but how was it possible to ascertain this fact? Not from any sensible qualities in the air, though every thing seemed to combine to strengthen that opinion, as I think, must be evident, while it was equally clear, that the blood did not act equally on the *excitability*;* for

* I could wish the word *excitability* to be well understood, as on this knowledge greatly depends, according to the principles of this essay, the correct method of curing not only the epidemic, but as I conceive, all febrile diseases. It is a phrase first introduced by the celebrated Dr. John Brown, who deservedly has made a great noise in the world; but unfortunately he had seen too little of medical practice to have given him all those correct ideas, which he would have adopted, if he had had sufficient opportunities of seeing the effects of fever in all its variety and types. Further, he did not live long enough to have had an opportunity of reflecting on the present *pneumatic doctrines.* Nevertheless I do not know that a better idea can be given of this important term, than the following in his own language.

"We know not what excitability is, or in what manner it is affected "by the exciting powers. But, whatever it be, either a certain quan- "tity, or a certain energy of it, is assigned to every being upon the "commencement of its living state. The quantity, or energy, is differ- "ent in different animals, and in the same animal at different times. It "is partly owing to the uncertain nature of the subject, partly to the "poverty of common language, and likewise to the novelty of this doc- "trine, that the process of the excitability being abundant, encreased, "accumulated, superfluous; or weak, not well enough sustained, not "well enough exercised, *or deficient in energy, when enough of stimulus*

for though the face was flushed, and the pain in the *head* was the constant subject of *complaint*, the whole surface seemed constringed, looking like goose flesh, and sometimes *cold*, together with the extremities always; from whence it would seem as if the *excitability* was greater, the nearer its source, the brain. But the lungs also have a surface, which is more immediately exposed to the atmospheric air, and therefore were more liable to be immediately acted upon, and to suffer by this general *torpor* during the cold stage of fever; of course they were the principal seat of the disease, having partly lost their *excitability* from the effects of all the predisposing, and exciting causes; and thence it was, that death was always at the *door*, because the powers within, and without were unable to perform the necessary functions by *generating heat* sufficient to keep the body alive.

A physician of the least reflection would certainly, never think of abstracting blood, which is considered the grand stimulant of the living body, during the cold stage of fever, consequently, if the system was in that state throughout the course of this disease, practice of that kind could never be deemed proper, and correct. This must be strikingly obvious, if the subject is taken in a proper point of view. During the cold stage of fever, the whole surface of the body including more especially that of the lungs is supposed to be in a state of *torpor*, or inaction, while at the same time the circulation in the larger blood vessels is considered as going on irregularly, but with rapidity; consequently by the mere propelling powers of the heart, and arteries, the blood, or its finer component part, the serum, would be more liable to be forced into passages, and cavities, from whence it might not so readily be extricated by

"*has not been applied.*" Again in the next paragraph. "There is "always some excitability, however small, while life remains, and the "action of the exciting powers is never wanting in one degree, or "another, the conclusion from that *fact* is, that they are all endowed "with more, or less of stimulant powers, and that this must be either "*excessive in due proportion, or deficient.*"

the returning veins, and the common absorbents, which are also in a *torpid state.* Thus it would seem, as if the lungs in a morbid, and inactive state, from the various predisposing, and exciting causes constanly acting upon them, are more apt to be disordered; and hence the *serum* once stagnating under the *sneiderian membrane* was not to be moved by any powers of of nature, or art. This, I believe, was the only fatal termination the epidemic, whether in the type of pneumonia, or synanche; and as daily experience had heretofore taught, before this epidemic period, was the most common termination of ordinary pneumonia, though evidently from very different causes. In the one, the *excitability* generally, but more especially in the lungs must have been "*deficient in energy*" from "*enough of stimulus not applied;*" in the other, it was "*too abundant,*" *while the stimulus of the blood was in* "*due proportion;*" and hence it was, that the indications of cure were *directly opposite* because during the reign of the epidemic *in its own domain,* the causes were constantly *negative,* consequently their effects were as constantly so. In the one, the *torpor* on the lungs, and whole surface of the body was constant throughout the course of the disease; in the other, the *torpor* was momentary in the generality of cases, which, agreeably to the principles laid down in the proximate cause, while the *excitability was abundant,* indirectly became the cause of excessive *excitement,* and hence the same termination by *effusion* might take place from causes directly opposite. But it is presumed, the *excitability* before this period was not always the same in all cases, at the accession of the cold stage of fever, in pneumonia; it might be *deficient in energy,* at that juncture, merely from the effects of the predisposing, and exciting causes, which consisted in cold principally; and thus effects might, and no doubt have taken place in a great variety of cases, similar to the uniform cases of the epidemic, making the *sporadic cases,* which have some times excited the astonishment of physicians, when they have found the effects of the lancet fatal and at a time when they have expected to have performed a wonderful cure.

If these principles and observations are correct, can there be a physician, who would venture to wield the lancet, without a pause? But it may be conceived, that, though the main point may, and ought to be given up, the old routine consisting of pukes, and purges ought not to be abandoned. It is highly incumbent on a physician, before he administers a medicine of any kind to take into consideration the indications, upon which that medicine is about to be prescribed. If a puke is thought to be proper for the cure of this epidemic pneumonia; the question ought to be; why does it seem to be indicated? Can the operation of an emetic have any salutary effect on a disease, while the cold stage is predominant? Yes, it may, by a sudden operation, determine to the surface! I grant, if this effect could always be relied on, it would be a very happy one; for it would at once go to the very root of the disease. It would restore action to an *inactive surface*, and the disease would be at once cured. As to the idle notions of cleansing the prima via, and throwing up the bile from the stomach, the whole matter is so absurd, that I think it altogether a waste of time to say a word upon the subject, if I have been so fortunate as to have made any impression on the reflecting mind in this whole discussion. If the above effect of an emetic could always be relied on, I would at once accede to the propriety of the indication; but unfortunately this never can be depended on. It almost always nauseates the stomach for some time before it pukes. If so, it weakens the energies of the system; and during this effect, it must encrease the whole *torpor* on the surface; and hence the use of nauseating doses of medicine in old pneumonia, when there is excessive excitement, and directly the reverse in this disease. While it nauseates, it nine times out of ten operates on the bowels as a purge. If so, the enquiry must be, whether a purge can have any good effect in this epidemic disease, and what are its indications. In the cold stage of fever, all the humours of the body are necessarily disposed to retire from the surface, because the capillaries are *torpid*, or inactive; of course any action on the bowels must encrease the action of their exha-

lents, and cause a greater determination of the humours to those parts, while all the other functions of the body would be more liable to be diminished, and more especially that of the lungs, the primary organ in the animal economy in *generating animal heat*, which, it has been seen was peculiarly defective from the *negative qualities of the remote cause.* Further, the encreased action of the exhalents necessarily diminishes that of the absorbents, and not unfrequently invents their peristaltic motion, as may be seen explained by some physioligists. This effect alone would be sufficient to sink all the powers of life. But if a purge has this effect on the exhalents, and absorbents in the intestines; is it not a reasonable presumption, that a similar effect might take place in the lungs, and thus more certainly produce an effusion of serum on them, which at first view must be the commencement of death? I am confident, I have seen this effect take place from one evacuation from the bowels. To the action on the bowels, let it be remembered, is necessarily superadded, among the lower class of people, more especially, exposure to the air, which most certainly would check perspiration, and again produce the recurrence of a cold chill, if it had in some measure gone off.

From all these considerations, and reflections, it must appear as clear as the light, that emetics never ought to be relied on as to their ultimate effects, and that *cathartics* must in a general way be much more pernicious, than the *lancet.* In the hands of a judicious, and cautious physician, the effects of the lancet may probably, be restrained, because, he can say, "thus "far shalt thou go, and no farther," but not so in the administration of a purge: when this medicine begins to operate, no human foresight can determine, to what extent it will go. In fact the depleting system, which had heretofore been altogether *in fashion* among the people as well as physicians from its known good effects in pleurisy, and peripneumony, was discovered never to have any beneficial effects, and too often brought on *a fatal termination;* for the plainest reasons in the world, which ought forever to be impressed on the minds of physicians. In ordinary pneumonia, there has generally been, with

some sporadic exceptions, a high state of *excitability* in the system, as well as in the lungs from whence they were capable of high excitement, and though a state of *exhaustion* "might be produced, the *excitability* was only encreased thereby, and the *excitement* consequently so agreeably to "certain laws of the animal economy;" but in the epidemic pneumonia, the whole system, and more especially the skin and sneiderian membrane were in a peculiar state of *torpor*, having partially lost their *excitability*, so that the lungs seemed to have lost their function from the first accession of the cold stage; and thus the blood, which did not receive from the atmosphere through them *enough of "air's pure essence,"* by which "*heat*" could be "*disparted" to the whole system*, and by this means *excite the excitability* to relieve a sinking system from the cold stage of fever, which never went entirely off, but with a return of incipient health.

It being understood, as I trust it is, by all intelligent physicians, that the cause of the epidemic disease was a *negative*, the indications were plainly *positive;* and inasmuch as the system had, by those *negative* causes, lost the power of *generating heat*, the indications were to restore it by artificial means. *In truth, the remedies were "simple and plain; for such are the ways and laws of nature."*

After a great waste of life, from a few days before the first of January, to a late period in February, I am candid to acknowledge, that though some were disposed to say, that I had been more fortunate than my brethren of the faculty, I was vacillating in practice, and not unfrequently preferred the *simplicity of nature* to the former, and active remedies; for I can say with truth, that no physician ever carried depletion by the lancet to a greater extent, than I have done, not excepting Dr. Rush himself; for I do really believe, like him, if I had been among the first attacked, I should have fallen a victim to a remedy, which I had seen so powerfully beneficial in pleurisy, &c.

From these reflections, it may readily be conceived that I gave up the lancet with great reluctance, believing like Dr.

Hosach of New York, that the epidemic pleurisy was a modification of the "*head pleurisy.*" I would advise those who set out to teach others, to be certain that they themselves do not require teaching. I recollect a great many such kind souls on the other side of the Atlantic, who published instructions to the citizens of Philadelphia, &c. *purely for their good*, and nothing else, when they ought to have sought for instruction themselves.*

* These transatlantick doctors remind me of the account given of two great physicians of high sounding names in the city of Pavia, who it would seem, did not volunteer their advice, as Dr. Hoggarth of Bath, in England, as well as a host of other mighty Doctors in France, &c. to the *unlearned Doctors* of the United States of America, all of whom know as little about the epidemics of America, as Dr. Hosach did of that prevailing in, and about Albany. For the amusement, and instruction of the reader, I cannot refrain from transcribing it from Vansweiten's commentaries or Boarhoave's aphorisms.

"In a publick oration which Ramazzini delivered in the college of "Pavia, to demonstrate, that *that theory had no right to privacy in physic* "*before practice, but that both these parts of medicine ought to be strictly* "*enjoined, he relates,* that in the year 1576, signs of a pestilence by no means "to be contemned, made their appearance at Venice, and when the fears "of the people increased from the frequent deaths, and as *usual great* "*differences arose among the physicians about the nature of the disorder,* "*some affirming it to be pestilential disease, others denying it;* by a decree "of the senate, Jerome Mercurialis, and Jerome Capivicca, (what "high sounding names in physic!) were sent for. These famous men "accordingly set out for Venice with a splendid ritinue, nor did they "meet a less flattering reception. Upon their arrival they instituted "a severe inquiry with respect to the disorder, gave the physi- "cians on both sides an impartial hearing, and afterwards in the "college of physicians, in presence of the Doge, solemnly deli- "vered their opinion, *that the epidemic disease which raged,* "*was not pestilential, and openly declared that they would cure the* "*disease by a method, and regimen that they should lay down.* This "declaration was received with the utmost pleasure, and the city "forgot all its fears: but when they ceased carrying away the infected, "to distant places, with their usual carefulness, in a few days this fatal "disease, declared uninfectious *by judges of such vast authority*, began

The correct practice in treating this epidemic disease, which was almost invariably in the form of pneumonia, was simply this. As soon as a patient was seized with chill or ague, it was absolutely necessary to have him put in a warm bed, after giving him forty or fifty drops of laudanum; to apply hot bricks to his feet, and if occasion seemed to require it to his sides, knees and back; to dose him freely with hot teas of any kind, every fifteen or twenty minutes, and if the chill did not seem to give way, a little spirit was necessary to be added. It was no uncommon thing, if this treatment was commenced instantaneously and properly persisted in, that a patient who seemed to be threatened with death in a few hours, was perfectly relieved in as many; and all done by restoring heat to the surface of the body, and by sympathy to the lungs, which were enabled to renew their functions by this simple method.

But it is to be lamented, that few were so fortunate as to be put under this treatment in such good time. For though it had been sounded from the overflowings of benevolence, that bleeding and purging were injurious; physicians and the people themselves would persist in destruction; so that after the correct treatment was generally understood, there were some that would go on as they had been taught, that is to "*kill by rule, and cure by chance.*"

It was nothing unusual during the whole winter and spring, when patients had not been thus treated, but were left to themselves for some days, that though they at first complained of cold for a few hours, they would say, they did not feel at all so; which might be readily believed from the appearance of the countenance, which was always flushed. As to complaints

" to spread among the populace with greater security, so that in the " space of a year almost 100,000 were carried off. *However this pesti-* " *lential disease behaved very politely to its judges; for it spared them, so* " *that they returned back to Pavia safe and sound, though they lost great* " *part of their retinue. Their method of cure proving injurious, the pro-* " *fessors were dismissed.* If such great men fall into so pernicious an " error, how cautious ought physicians to be, when they are consulted " about epidemic disorders."

generally they had none except in the head; and though they were incessantly coughing, and sometimes spitting freely, it was rarely they complained of any pain in the chest, unless interrogated! The pulse was generally full, and almost always indicated the use of the lancet, if other circumstances were not attended to, such as the coldness of the feet and hands, which showed clearly that the hot had not yet completely succeeded the cold stage of the fever. Even under all these, the most alarming of symptoms, there was little apprehension, but that the patient might be perfectly relieved, though not so speedily by the same mode of treatment. Though the face was flushed; the head constantly complained of; and great stricture and fullness in the thorax, yet this same hot treatment relieved all these distressing symptoms with more certainty, than the depleting system used to relieve similar symptoms, when it was actually indicated *in the old pleurisy and peripneumony.* It is true that a perspiration was not so readily excited in this stage of the disease, but the cure was almost as certain. But if blood was drawn or a purge was given, all was doubt and difficulty, until it could be ascertained, that an *effusion* had not taken place. If it had taken place, it was quickly discovered by a *quick respiration*, when even hope vanished. This soon became with me the only symptom to be apprehended; so much so, that when I was called on to visit a patient and got into his room, I placed myself in a situation to view the state of his *respiration*, and looked steadfastly first at his chest, and then at his countenance, feeling his pulse at the same time. If his *respiration* was easy, I directed with confidence, that every thing which has just been advised, should be applied with unremitting diligence, and that he should not by any means be permitted to get out of bed; and that every thing should be avoided, which could disturb his bowels, even for a week. If I was not successful, I am confident it has been, because these directions have not been complied with. Indeed it so happened, that if a patient was not put immediately upon this plan in the course of a few days, it was a difficult matter to keep him still. He would insist on it that he was not cold, though his

feet were like ice to the feel, but on the contrary, that he was burning with *heat internally!* In pulmonic complaints, this was a circumstance altogether new and extraordinary to me, but had been familiar in autumnal seasons, when intermittent and remittent fevers prevail here, as invariably as the seasons revolve around. During that season, when patients are taken with either type of fever; I have seen so many fatal cases from cholera, that I have for many years made it a practice to caution them and their friends against the results, which may probably take place in the cold stage. If the bowels are put in motion by nature or art, at that particular junctnre, there is always some risk of an afflux of humours to those parts, which are not so easily restrained; and when left to nature, soon put a period to life. In this situation when the whole body is externally cold, the patient complains of intolerable *heat internally*, clearly demonstrating that he is labouring under the effects of the cold stage of fever. Just so in our epidemic, if the bowels were once disturbed, the consequence were always alarming, because the disease was made up of but one stage, which was the cold stage. In truth, this symptom which was seldom natural but unhappily too often artificial, was vastly more injurious in the one case than the other; it weakened the system, disturbed the healthy action of the lungs as heretofore stated and diminished, or rather obstructed the powers of the animal economy *in generating animal heat.* Under all these circumstances and reflections, is it possible that a physician can ever think, without seeing the absurdity of bleeding, puking or purging? Well may it be said of such persons, "they have eyes, and see not, understanding and perceive not."

But notwithstanding what has been so earnestly inculcated as to the pernicious, and fatal effects of depleting by the lancet or by the bowels, it is not to be supposed, that these violent remedies destroyed all, who came under such treatment. If this had been so, a vast many more would have fallen victims than really did, to this terrible scourge. It is only wished to be understood, that in such cases, which survived this *unnatural treatment*, they would have recovered with much greater

facility, if they had in tender mercy, been left to the care of friends and *nature*.

Those who have ever given themselves the trouble to read the various histories of epidemics, and pestilence in different parts of this globe, must know, that "*no pestilence has ever been so violent as to kill all;*" that all are not taken down with the disease, which is daily thinning the ranks of human life; and that of the great numbers which are seized with it, a great proportion are but slightly affected: in fact that there are grades of the same disease. This being actually the case, the presumption is, that the violent operation of a medicine of this kind, so much to be avoided, may not always have the effects, which have been here attempted to be portrayed, but on the contrary, it may at times have a very salutary effect. But sure I am, that the abstraction of blood, while the epidemic was raging, could never have been useful, though as in the cases described at the commencement of the disease, it did not prove fatal, when taken with caution. Pounds of salts, pounds of calomel and jalop, &c. were used throughout the season, and yet human life was spared in some cases, which seemed rather desperate; but does this prove that purges were not pernicious? I trust not, while I can vouch for the fatal effects; if the reasoning on this subject has made no impression on the reader. I have been told often and often, of the wonderful effects of "*evacuating freely*," but I am constrained to say, that out of the numbers of such cases, which have fallen under my notice after purging rostrums have been persisted in, I can say candidly, that four-fifths have fallen victims to folly, and a want of accurate observation, while of the other fifth, which have survived such stupidity, I am confident, they would have been perfectly recovered by *the only safe treatment* in a few days, or perhaps hours; whereas by a contrary *system* of ignorance of the animal economy, they have languished for weeks; frequently to the great credit of the *skilful Doctor*, who ought to have been ashamed of himself. These reflections remind me of my attendance on a negro boy of the Rev. Dr. Keene, one of the best of men, and of great

ecclesiastical learning, some four or five years ago, in the autumnal season. I proposed giving him either a puke or a purge, I really forget which, and was very earnest in directing that it should be given at such a period, before the next paroxysm, that it might have time to complete its operation. Why, said the good old man, are you so solicitous about that matter? I endeavoured to explain, by telling him of the probable danger, if it should be operating, when the cold stage or ague came on. Holding up his hands with amazement, he exclaimed with a smile! Is it possible? Why, I have given *blue stone* as a puke for forty or more years, and have always given it in such way, that it might operate, as the ague was about coming on; and this practice has been attended with invariable success! I think I asked him, if he had never known a patient to be taken with a cholera morbus, after the second, third, fourth, or fifth paroxism of an intermittent, which had sometimes proved fatal. I am rather confident, his answer was in the affirmative, though he seemed equally confident, that the *blue stone* had never done any harm!!

It is a circumstance frequently of deep regret, that men however well informed upon general topics, will have their own *notions* about the good effects of *certain remedies* for particular diseases, though they have never taken one requisite step to be correctly informed upon subjects, in which life itself is materially concerned; but for a physician not to reflect on cause and effect, as they regard the various motions of the human body, when they are about prescribing for a disease of an alarming nature, it actually becomes *criminal*. It is the duty of a physician to reason with himself, and to ascertain the state of probabilities as to the ultimate effects of the medicine, which he is about to direct. If he thinks an emetic is really indicated, and that it will probably have a happy effect as such; he ought to reflect, that this same medicine may not have any such effect, and that even if it should operate as an emetic, it may also act as a cathartic, and thus defeat his whole intention. I trust it is clearly shown, that both emetics and cathartics are hazardous remedies, if administered during the cold

stage of fever, and as the epidemic was made up altogether of the *cold stage*, therefore emetics and carthartics, were hazardous remedies, and oftener did much more harm, than they could possibly have done good.

Further, as sporadic cases of pneumonia, similar in their nature and effects to this epidemic, have frequently occurred at all times and seasons, the same reasoning with regard to their treatment will apply, when such cases do again recur. To say that I have guarded against the early use of carthartics in cases of *pleurisy*, would be only acknowledging, that I have taken the advice of some of the most eminent medical writers, while I must at the same time acknowledge, that I did not understand the rationale of such cautious treatment; and that I have had cause to lament that I have given nauseating doses of emetic medicine, which have operated as cathartics, and at other times I have been importuned to give carthartic medicine, which in both cases have hastened the patients out of the world. Such being the effects of these important remedies in ordinary times, in diseases of the lungs under certain circumstances, how much more were they to be dreaded in our pneumonia epidemic?

It must be recollected, that I conceived the case of William Blake to throw much light on the subject of the epidemic, though it appeared for the first time in the type of synanche; because there was an *effusion of serum*, under the synederian membrane of the whole fauces. My reason for thus expressing myself was, that there appeared a want of action in the exhalents and absorbents of that part, which finally extended into the lungs, which is lined with a continuance of the same membrane. Under this impression I commenced the use of stimulants, though with much caution; and began with a medicine which had become obsolete, until revived by Dr. Archer of this state, in cases of synanche trachealis. I had learnt from some experience, that *seneka snake root* was a considerable stimulant upon the fauces, and therefore concluded that it would have a double effect agreeably to its character, in exciting action of the skin. In many cases of affection of the throat

I found it a most useful remedy, as well as in affections of the lungs, until it was discovered that it would too often take a turn upon the bowels, which unhappily defeated all its proper indications. This much I can say for it, that in slight affections of the throat, it is one of the best gagles I ever used, but must caution physicians against the use of it, when it is supposed, that an operation on the bowels will have any bad effect.

All these observations and reflections, lead to this plain and obvious conclusion, that in prescribing for all fevers, particular attention ought at all times, to be paid to the stage of the fever, and that every thing which will disturb the progress of it from the cold to the hot stage, must most probably be highly injurious; of course, as it could never at any period of the epidemic fever, be well ascertained, when the cold had gone into the hot stage; and that when that had actually taken place, a relapse was more likely to happen than in any other disease, until recovery had actually become complete. Every caution became necessary, which could affect the *negative* state of the system, while every thing which could in any degree, aid and assist the animal powers in emerging from a state of cold to a state of heat, became altogether important and essential. All these circumstances have made so deep an impression on my mind, that I never will make use of depletion in any way, unless that by the skin, can be called such, until I have ascertained the *fact*, whether *the feet are warm*, and whether the arm, when exposed to the air puts on the appearance of *goose flesh*. For let it be remembered that a coldness in the *feet* was a pathognomia circumstance peculiar to the epidemic of 1813, as well as an apparent *constriction* on the skin; both of which circumstances may at times be attached to all fevers, and more especially in fevers attendant on affections of the lungs.

That epidemics of a character similar to the one, which I have been endeavouring to pourtray, have fallen upon different parts of this world from the earliest times, there can be little question while it is greatly to be regretted, that few if any, medical writers have been sufficiently accurate in their descrip-

tions, and method of treating it! Sydenham attempts to give some account of the rise of a new fever, but not so distinctly as to induce a belief, that it partook altogether of the nature and character of this epidemic of 1813. He thinks, that a "change "of a constitution depends principally on some secret and "hidden alteration, in the bowels of the earth, communicated "to the whole atmosphere, or on some influence of the pla-"nets;" from whence it is presumed, originated a kind of "bastard peripneumony," which did not "bear repeated bleed-"ings," as in former times. The whole is wrapped in unmeaning phrases, and leaves us very much in the dark, whether this epidemic *peripneumony* was in any respect of the nature, or character of our epidemic pneumonia. In his account of the "epidemic cough, pleurisy and peripneumonia of 1675," some doubts are raised about the propriety of bleeding, though he seems unwilling to give up his fondness for the lancet, and leaves us in doubt about the real character of his epidemic. But Dr. Rush in a note on this subject at one dash removes all difficulty in his own mind, by referring it to the character of what he, and others are pleased to call a "bilious pleurisy so "well known in the southern parts of the United States," and talks about its "*grades*" with as much confidence as if he really understood the subject; and contrary to his own principles confuses the whole, with the high sounding words, "synochus fortis, synocha, synochus mitis, typhoid and typhus," observing at the same time, that "more copious bleeding is necessary "in the first, and second, than when the bilious fever or pleu-"risy exist separately." Perhaps I may say a few words on this mistaken idea about "bilious pleurisy."

Vansweeten in his commentaries on Boarhaave's Aphorisms slightly glances over an "*epidemic pleurisy*," that would not yield to the "usual method of cure, nor bear repeated plentiful "bleeding," but was happily cured by a free use of "emollient "decoctions, and large and frequent doses of oleaginous me-"dicine." It does not appear that he considered it a disease, which created any alarm, or that it proved by any means of a fatal nature, while it was evidently altogether transitory. Sy-

denham is candid in his treatment of epidemic diseases, and has given some excellent advice, when he says, he "could "scarce ever preserve one or two of his first patients from "danger, till he had thoroughly investigated the nature of the "disease, and then he proceeded in a direct and safer way to "the cure." Vansweeten also, is equally entitled to attention, when he makes the following observations, viz. "sometimes "distempers offer, which although they are entitled epidemics, "are entirely anamolous, cannot be restricted to any fixed "form or type, and are entirely irregular, both as to their va- "riety and dissimilarity of the symptoms, that the same dis- "ease in the very same *constitution* of the year, frequently "appears in a various and dissimilar manner. Whence," he adds, "it were to be wished, that physicians who have an ex- "tensive practice would meet together, and deliberate from "their joint observations, on the nature of the incipient epide- "mic disease; and publish the best, and most certain method "of cure, as well as such as had proved successful. Thus, "many mistakes would be avoided, and if any error was com- "mitted, it might instantly be rectified."

These great and illustrious characters, have given excellent advice in the above short quotations, which may very correctly and properly apply to all epidemics, but as to the cure of this epidemic I can discover nothing, which amidst their various remarks, can lead to a correct indication of cure. Nevertheless I shall always consider myself, in some measure, bound to give each of them due attention wherever a disease occurs, which appears in a suspicious form, as they contain almost every thing upon epidemics, during and before their day of usefulness.

It has been reserved for our countryman, Noah Webster, to have thrown more light upon the subject of epidemics, than any other man in ancient or modern times; and though not a member of the faculty, has said more than any other person of our day, with all the advantages of modern improvement, to

lead to correct notions of the causes of epidemics, and at the same time to the cure of them.

I must take the liberty of advising every practising physician to read his book on epidemical diseases with patience and attention, when perhaps he will be better prepared for such a scourge, as has afflicted this devoted section of the country for two years past. He does not pretend to specify remedies, but as they have been beneficial or injurious, agreeably to the authorities he has consulted, and these are so numerous, that it would be impossible for physicians to come at them in any other way, situated as they generally are, whether in town or country. And yet it is more than probable, that he has not with all his elaborate research, been able to come at one half of the epidemics, which have devastated many particular sections of our own country. Even here there is something like a tradition, such as he relates, as "coming from his father," which induces me to believe, that this particular part of the country, was afflicted with an epidemic *pleurisy*, &c. such as I have been treating of. Independent of what I have heard from my father also, who died in the year 1782, at the age of sixty-three, as well as some other persons, who are now living, there was for many years after I commenced the practice of physic, in the memorable year of 1783; a common practice among the middling class of people, to give *sweats* in cases of pleurisy! Though this might have been beneficial in some few sporadic cases, as I endeavoured to show in some of the preceding pages, I had generally to regret the ill-judged use of them. Happy would it have been for this quarter of our country, if this once pernicious custom of piling bed clothes on a patient, applying any thing hot to his feet, and of plying him with hot toddy, hot teas, &c. had been generally resorted to during our epidemic. Had this practice been regularly pursued, I am confident nineteen-twentieths of the victims to ignorance of the real nature of the disease, and the correct mode of treating it, would have been spared!!

We read in our miscellaneous works, more especially in the Medical Repository of New-York, of "*bilious pleurisy*," which

required a different mode of treatment from ordinary pleurisy being particularly injured by bleeding; but whether this disease, as described by Dr. Hugh Williamson of N. Carolina, and others, is of the nature and character of our epidemic, I shall not take time to enquire, but really there is something so absurd in the idea of a *bilious pleurisy*, that I am surprized any physician of common understanding would ever think of tolerating it! Is it, because the patient occasionally pukes bile? Then every disease to which the human body is subject, may be termed bilious; for I can say with truth, that this circumstance may and does take place in all cases whatever. Is it, because the skin is frequently tinged with bile in pleurisy? This I have been witness to in hundreds of cases, where the lancet was the only remedy, that could be relied on; and when I have taken away day after day pounds of blood, I have thougnt, that more might have been taken with advantage! But then it is to be presumed, "*the oxygen in the air was superabundant*," and that every thing conspired to augment the *excitability* of the system, so as to make it necessary to reduce the *excitement*, which was much more likely to destroy life, than the *negative* state of the animal economy, during the reign of the epidemic of this section of the globe, arising from a "*deficiency of oxygen in the atmosphere.*"

I may have been wandering from my subject, but surely too much cannot be said, if the healing art can by any means be improved, and I am sure, that a great deal is yet to be learnt, and that too by reflection, and a minute attention to every symptom and every circumstance, which may possibly arise in the treatment of every disease, and more especially of this epidemic disease.

Having dismissed the *bilious pleurisy*, I wish to call the attention of the faculty to the only epidemic, which seems to correspond exactly with the one I am treating of, and which took place in this peninsula in Sussex county, Delaware, in 1775. It evidently originated from local causes, which were such as I have endeavoured to prove. The Rev. Matthew Wilson, who practised medicine in Lewis. after telling us, that

it "raged chiefly during the three last weeks of February, and two first of March, most about Indian river, where the land is high and dry," but not at all on the other side of the river, where the ground is low and moist, and that "so dry and warm a winter has not been known in the memory of the living;" that "the air has generally been full of a dry smoky vapour, with many other remarks, which are highly pertinent to the case of our epidemic." He seems to think, that "so great was the variety," (in the symptoms I suppose,) that it was "not easy to describe it," and yet when he comes to the "remedies," which proved unsuccessful as well as successful, he admits in plain terms, that it was a *pleurisy*, though of a peculiar character. As I think our subject will be elucidated thereby, I shall take the liberty of transcribing a part of this important letter to —— of Philadelphia, as published in the Medical Repertory.

"*Remedies.* It would be more tedious than useful to relate "all the methods of cure I tried, and the medicines and vari- "ous combinations of them to no purpose at all, for some time. "At first, it appeared by the account the messengers gave, "that it was a *pleurisy.* I was then obliged to go a journey, "and could not attend; but I sent them the usual remedies "for that disease, ordering the usual evacuations. They were "bled at intervals, blistered on the pain, had the best expecto- "rants, pectoral infusions, &c. but to no good purpose at all. "When I came myself to see them, on weighing as well as I "could, all the circumstances, I concluded it to be a peripneu- "monia typhoides, and had great expectations from the class "of powerful *antiseptics;* but here I was as much mistaken. "On the whole I found salt petre and camphor mixed, useless. "Camphor had no sensible effect, and salt petre seemed rather "injurious, except when blown into the throat to cleanse it. "Opium increased the difficulty of breathing. Volatile salts "were insufficient. I could not even promote perspiration by "camphor, volatiles, and thebaic tincture together. I supposed "worms; and mild mercurials brought some away, but seemed "to do no other service. Bark in large and repeated doses,

"would check the gangrene; the acid elixir did small service; "blisters to the pain seemed to increase the *internal burning*,* "or *gangrene;* bleeding† was certainly very pernicious; not "one recovered, who was bled in the arm: bleeding in the "feet was little better if they bled freely. The same remark "on bleeding, I since find was made by some in the pestilential "fever in London, A. D. 1665, when they buried 9000 a "week.

"That which is said to be Heinsiers' anti-pestilential re- "medy, for which he had a statue erected to him at Verona, "was altogether unsuccessful here. Vomits,† at first seemed "of service; but I suspected they sometimes induced a gan- "grene in the stomach; purges† had the same tendency in the "intestines; the antimonial essence as an alternative, would "avail nothing, &c. &c.

"Distressed in mind in this mortality, I gratefully ascribe "to the Being of unerring wisdom and boundless compassion, "the granting a clue to extricate us out of this perplexity. *It "is simple, indeed and plain; but such are all the ways and "laws of nature.*"

"Reflecting on two or three external mortifications, which "happened about this time, I considered that this disease must "be the same, only *internal*,* and less accessible; that some "very malignant peculiar acrimony, must produce these ef- "fects; probably contracting the nervous fibrils into spasms, "which gave the *burning pain*;* and interrupting the nervous "and other fluids, to the destruction of the part; whence the "paleness, weakness, &c. I resolved therefore to try medi- "cines, which would blunt the acrid venom, remove the spasms,

* Nothing can be more characteristic of our epidemic, than this "*internal burning*," as well as every other descriptive part of this letter, making due allowance for his ideas about "*gangrene*," &c.

† I would beg the medical reader to attend to these fatal *remedies*, viz. *bleeding, vomits and purges!* Can any thing be plainer, that they sometimes if not generally, brought on a diarrhœa, which could not be restrained as in our epidemic, which in his opinion indicated a "*gangrene?*"

"*raise the vital powers, warm and open the skin, and rouse the* "*languid nerves all at the same time.* By camphor gr. v. Bals. "Traumat ZS, Spt. Sal. Ammon. Th. The Bari au gut xxx "Deasct. Rad. Althæ ZS m. ft. hauster.

"This was given to adults twice a day. A single dose would "sometimes relieve, *when taken early in the first stage;* but "some required several doses. The camphor and opium, "seemed necessary to ease the pain, remove dismal apprehen- "sions of mind, compose to rest and moisten the skin. But "when the disorder was advanced to the second stage, even "when the sick were very low, the following rules I think, "always succeeded, viz.

"1. By Rad. Valer. Sylv. 21, Serp. Virg. Camphor oa grs. "iv. Gum. Assafætid. grs. 7 syrup con grs. st. Bol. This may "be repeated two or three times a day, to promote sweat and "urine, rouse the languid nerves, &c.

"2. To the pain we applied hot poultices of lays of ashes, "thickened with Indian meal, in a thin linen rag, which is ex- "cellent for pains, spasms and gangrenes.

"3. To correct acrimony, &c. &c.

"4. Their drink was a decoction of mallous roots, and catnep, "made into a hydromel, with honey and vinegar. Of this they "were obliged to drink a gill hot, every fifteen minutes, though "against inclination."*

This last article distinctly fulfils the indications of cure of the epidemic here, while every thing else previously mentioned must aid, and assist the system, become languid from the effect of the *negative* powers of the *remote cause*, &c. Another circumstance is brought into view, though not mentioned under this article, and that is the probability of other *directions*, viz. that the patient should be kept covered in bed, to aid and assist the "*perspiration*," which seemed to be the grand intention of all the "*remedies.*" In fact the above treatment was so nearly similar to the correct one here, that it would be unnecessary to detail any thing further on the subject; as the

* Med. Rep. for August, September and October, 1809.

judgment of every physician must be governed by times and circumstances, as well as symptoms. I am altogether disposed to concur with this able physician and divine, that blisters were not so much to be relied on, as some kind of hot applications, at least at the commencement of attack of the disease.

It is greatly to be regretted that physicians, generally have not been more accurate in their observations, more candid in their enquiries, and more disposed to communicate their observations, especially when even one case of febrile disease, has put on symptoms which were any way singular. This would lead to further investigation, and might be the means of saving the lives of many. It would appear the effect of accident more than any thing else, that the above valuable communication was ever made, and full as much so, that it has been rescued from oblivion! On Indian river, even among the best informed, the nature of such a disease as above described has long since been forgotten, though they may yet retain some vestige of remembrance, that there was a time, when "*catnep tea*" was considered a sovereign remedy for fevers and colds, by bringing on sweats, if they would keep themselves well covered with bed clothes, &c. This and other circumstances make it highly probable, that such an epidemic as described has not unfrequently burst forth, laid waste a small district of country, and then given place to ordinary diseases.

That a disease similar to the one I have been treating of, has made considerable *inroads upon life* for several winters past in the New England states, there can be no sort of question with me; and yet most unfortunately there seems to have been great contrariety of opinion, as to the mode of treating it. It would be unfair to pretend to decide on a subject of this kind, as there may have been many little circumstances, attendant on the disease in different places, which might make the indications very different from what they have been here. But I must be candid, and confess myself under some obligation to the benevolent intentions of a Mr. Hayden of Connecticut, who was some means of confirming me in a plan, which I had under

the dispensation of an overruling providence, begun to reason correctly on before I had read his directions, &c. In truth, it was substantially the same as the Rev. Matthew Wilson's, and such as I have repeatedly declared to be the only *correct method of cure.* But why do I talk about correctness of treatment, it was all to no purpose, if the disease was not arrested at the threshold. If an *effusion of serum* on the lungs had once commenced, the powers of art were all in vain; in fact it was synonymous with death! I am not altogether certain, that I ever saw death approaching in any other shape or form, except in the case of a young woman, who had been bled, purged, blistered, &c. which terminated fatally in suppuration. I have been informed, that some other cases terminated favourably in the same way. When external inflammation took place, it was invariably a favourable sign.

But alas! the ravages which this *simple, and altogether manageable disease* made, were distressing to think of! It commenced, it will be recollected late in December of 1812, and continued with short interruptions, until some time in June 1813, sweeping off in some instances, almost every member of large families! It would be no difficult matter to state the loss of three, four, five, six, and in some instances, eight in one family, in the short space of a few weeks. Fatigue, distress of mind, and exposure to cold in nursing, were the principal *exciting causes* of this disease; and while too many were possessed of their own notions about *pleurisy and sore throat*, it was impossible to confine the sick, and keep them under proper management; because if they were not immediately put to bed, and a turn given to the surface, they began to complain of great *internal heat*, and would sit up in bed, or attempt to walk, or sit in a chair, declaring that the *heat inside* was distressing beyond measure, while the whole surface was cold. In fact, it was absolutely necessary to arrest the disease at the very threshold, or life vanished like a shadow.

Tell it not in Gath; publish it not ——, here I will pause, before the world can know, that in the short space of five months 500 persons, at a very moderate computation perished

in Talbot county in the state of Maryland, with a population of something more than 15,000 souls; and at a time when nine out of ten might have been saved, by a more judicious and proper treatment;—but not by physicians, for had every physician, as it were by inspiration or intuition, perfectly understood the proper mode of treating the epidemic disease, the people themselves would, with difficulty have been brought to submit to such *simple treatment*, while they were wedded to the use of the lancet, calomel and jalop! Well might it be said, if the *hot regimen* killed its hundreds; the *antiphlogistic system* killed its thousands; therefore let us adopt the old maxim, Tempora mutantur, et mutamus cum illis!

For a very short space of time, some few persons were idle enough to suppose, that while death was thinning the ranks of the white population, the black people were exempted from this epidemic scourge; but the pleasing delusion among that class of our fellow men soon vanished, and they had to learn, that the disease made no distinction of persons, but as they regarded themselves; and that the black population were the most numerous victims, who from their poverty, if free, or want of attention from their masters, if in slavery, were less guarded against the effects of all those causes, from whence the disease originated. But it may not be improper to remark here, that my astonishment was not unfrequently excited, when I saw so many persons, both black and white, living in the most perfect health, while they were labouring under so many disadvantages from poverty and want; a proof that the animal economy is capable of resisting the "*hurtful powers*," in a way that can hardly be accounted for, and equally striking, that this disease as well as all febrile diseases, are most generally excited by sudden transitions from heat to cold, and vice versa.

It has been observed in the course of this essay, that every type of disease, partook more or less of the nature of this epidemic during its prevalence; but the real fact was, that there were few cases, very few indeed, that did not either run into the type of pneumonia or synanche, early in *the cold stage*, or

show a disposition to do so, unless where they were arrested by the correct, and only beneficial treatment, for the plainest reason in the world, that the disease could not take place without the *predisposition* formed in the lungs, or that *membrane* so immediately connected with it.

After all that has been said upon this epidemical fever, it may appear to some rather singular, that I have not designated it by an *appropriate name;* for it seems to be a thing as much expected by the generality of mankind, and indeed too much so by the mass of physicians, to distinguish a disease by a name as much so, as it is to designate one man from another, by his proper name. For the first two or three months, the epidemic got the vulgar appellation of the "*head complaint*," as has been before remarked, because the *head only was complained* of, which I conceive to be far less appropriate than that of the "*head pleurisy*," which pleased Dr. Hossack of New York so much, when he undertook, (though it was probably not without an application) to instruct a young physician of Albany, about the nature and treatment of a disease, which, I will venture to say, he was as ignorant of, as the *man in the moon*, if it was of the same character with our epidemic; and there is every reason to suppose it was. The term "*head complaint*," seemed completely to meet the ideas of the people, and to satisfy every body as to name, for two or three months, until it imperceptibly got into the back ground, and gradually acquired the dignified, and more scientific title of TYPHUS FEVER, which by the bye, has become a sort of plaything, among a certain description of physicians and other great men, while probably, they have no sort of definite idea affixed to it! My simple notion is, that it is a very appropriate term if properly considered, and generally applied to our epidemic. But very unluckily the term is applied to fevers, very essentially different as to their character, cause and effect, both of high and low degree or grade, for they are distinguished by nosologists into "*typhus mitior and typhus gravior.*" It must be admitted, that these terms have become very vague in their signification, being used very much, as whim and caprice may direct, and

too often without any significant meaning whatever: And yet I am of opinion, it might be very appropriately applied to our epidemic, as a generic term. The Greek substantive Τοφος signifies smoke, and the Greek verb Τυφω literally means to *burn without flame*, which exactly corresponds with my theoretic doctrines, and principles of this extraordinary, and singular epidemical fever, so that if the term TYPHUS could be applied only to such a fever as I have been endeavouring to explain, it would very properly and generally distinguish it from all other fevers of a different character, when we should know at once the nature of the fever from its name; and of course the treatment would be as readily understood, for the term would denote its cause, and the effects of that cause, that is *a deficiency of that vital principle in the atmosphere*, which produces flame, consequently the animal economy would be immediately considered as deficient in its powers, to generate heat. This may be considered as something like *speculation*, which I am very ready to admit, and therefore, unless a characteristic distinction of this kind, could be generally agreed on among physicians, it may be as well to let the whole matter rest, as it now stands, under a vague title and signification. Nevertheless, I shall take the same liberty, which governed the great Dr. Sydenham, when he introduced the term "*intercurrent*," and call it by that "*term which best pleases*," therefore I must beg the reader to remember, that the epidemic of 1814, began with the effects of the winter's cold, and ended with the same, which fairly entitles it to the simple appellation of the "*winter epidemic*," and places it in a distinctive point of view, and in contra-distinction to the pneumonia diseases, which invariably recur every winter more or less, but without such a *remote cause*, as a sine qua non, which, I hope, I have clearly and satisfactorily proved to every candid mind, that will take time to reflect impartially.

I have been deeply impressed with the great importance of the subject, which I have had under discussion, as nothing less could have induced me to have undertaken it, while I have in no small degree, to regret the want of sufficient ability to do

it that justice, which it so eminently deserves. I can say for myself, that the whole matter has given a new direction to my reflections, on the treatment of fever generally, which I would fain hope, has been considerably elucidated, from the view which I have taken of the epidemic, as connected with it; and also that the idle and preposterous notion about *infection* and *contagion*, are not a little corrected. Sure I am, if I am correct in my sentiments, and principles of the epidemic, neither of them can have any share in the propagation of it, much less in generating it. And perhaps, such would be the issue of all epidemics, if their causes could be accurately traced, and properly ascertained. But such are the wild and extravagant notions of the bulk of mankind, and of too many physicians, that reason is indignantly spurned at, when any thing clashes with their pre-conceived favorite opinions; and while their minds are pre-disposed to nothing, which would quiet their dreams of horror and devastation, the only pleasure they are capable of, is that of indulging in absurdity.

Amidst all the controversies about infection and contagion, domestic and foreign origin, of "*yellow fever*," or as I would say, *epidemical fevers*, which have swept off such multitudes of our fellow citizens in our seaport towns, I have not been an indifferent spectator and observer, of what has been passing within my own knowledge and practice, for almost thirty-two years. When I have heard or read a description, for instance, of the "*yellow fever*" in Philadelphia, I must have been indifferent, and blind indeed, had I not considered and reflected, how far and in what manner this *disease* corresponded or agreed with diseases, which had for years been familiar to me in the course of my practice! If there was nothing essentially different in the symptoms of the "*yellow fever*," nor in the rise or declension of it into health or death, from the *fevers* here at the same season of the year, (for autumnal fevers here are as regular as the season,) surely it would be a fair, a reasonable conclusion, that the diseases were the same, and that they could differ only in degree. And let me not be accused of exaggeration, when I assert, that I have not unfrequently seen

cases of autumnal fever here, as violent and as malignant as the various cases of "*yellow fever*" in Philadelphia, though not as uniformly so. If the fevers here, and the fevers in Philadelphia, prevailing in the same season, were both similar in their effects, they must have originated from similar causes; and of course substantially the same; but our autumnal fevers are domestic in their origin, therefore the "*yellow fever*" in Philadelphia must have been so too. If Dr. Rush was correct in his ideas about the high degree of *excitement* in the generality of the cases of "*yellow fever*," there must in all probability have been something singular in the "*constitution*" of the air of Philadelphia, which encreased the *excitability* of the system, and thus rendered the depleting system, under proper restrictions and considerations, of the *cold stage* of fever, absolutely necessary, and the only mean of saving life, but here where no such "*constitution*" of the air prevailed, the cases requiring depletion by the lancet, could have been considered only sporadic. But the course of the epidemic here, of the winter of 1813, has been considered as a *negative* in its effects on the human body, because there was a deficiency of "*pure vital air*" in the atmosphere, which is essentially necessary to life, and the generation of animal heat, therefore the idea of even *infection*, much less that of *contagion* must fall; and the epidemical disease be considered as standing alone, differing from all other epidemics, not originating from similar causes.

THE

EPIDEMIC OF 1814,

Of Talbot County, &c. in the State of Maryland.

THOUGH it has been stated in the foregoing part of this Essay, that the epidemic of 1813, finished its course in the month of June of the same year, with the effects of the cold of the preceding winter, certain facts and circumstances, make it more than probable, that the *remote cause* of that disease, still continued in the atmosphere throughout the summer, and fall, and only wanted the return of *cold* to put it again into action; and to have similar effects, in the production of a similar disease, which was clearly evinced, as soon as the *cold* and frosty weather had again set in, and continued a sufficient length of time to predispose the system conjointly with *that cause*, to a disease of a similar character; while it must appear to be *something* amounting almost to a demonstration, of what was only suspected before, that the *earthquake of February the 12th* 1812, was the cause of the one and the other, that is of the epidemics of 1813 and 1814; at the same time proving what I have attempted to explain, that though the *remote cause* was a sine qua non, it nevertheless could not have had those effects, which were exhibited in the disease, without other conjoint causes; which must altogether have acted as *predisposing causes*, and the *cold* principally as an *exciting cause*; confirming also what has been intimated, that the transition from health to disease is not so sudden, as some have sup-

posed, and fully explaining the celebrated Dr. Brown's idea of *predisposition;* and finally, placing the whole matter beyond all sort of contradiction, that our scientific countryman Noah Webster, has been correct in his principles and theory, with regard to the origin of "epidemical and pestilential diseases," and that his *work* is above all praise.

The autumnal epidemic which harrasses this region, as regularly as the season itself comes round, and is ascertained to originate from *known causes* as has before been remarked, commenced somewhat earlier than usual, owing to the great rains and hot weather. In July there were several cases of *cholera infantum*, and intermitting and remitting fevers, were beginning to rise, attended with all their accustomed variety of symptoms. These continued through their appropriate season, and seemed to give way to the epidemical pneumonia in November, which had commenced its career in December, in the previous year; though it was clearly obvious, that the cause of the one had ceased, and that of the other had become active with the *cold.*

As a proof that the *cause* of the epidemic had not ceased, but actually existed, I will just notice two cases which occurred in the month of August, exhibiting most decidedly all the pathognomic symptoms of previous epidemic pneumonia. The first was a case of a poor old woman of seventy, whom I saw only once; the other was an old man, nearly if not more than eighty years of age, whom I saw several times in passing. It can throw no sort of light upon the subject before us, to enter minutely into these two cases, and the only two which I knew or heard of, in this county from the middle of June, to the middle of August. Suffice it to say, that I was not satisfied with the treatment of either of them, though it is altogether probable from their advanced age, neither could have been preserved by any means whatever, as old people are very apt to go off in the *cold stage of fever;* and I was disposed to think an *effusion of serum on the lungs* had taken place in both cases very early in the disease: of course remedies were useless

from that time. So much for a continuation of the *remote cause.*

Early in November therefore, when the *cool weather* had previously co-operated with the *remote cause*, so as to predispose the system to be acted upon by the *exciting causes*, as has been attempted to be explained in this essay, the epidemic again commenced in earnest, and displayed itself at once in all that array and character, which it had only done in a gradual manner from the last of December 1812, to the first of February following; and at a time too, which was altogether different as to the state of the weather, in December 1812; for it must be recollected, that all December of that year, was dry and cold; the earth was frozen, and continued so throughout the greater part of the following month, the roads being quite dusty; whereas now the epidemic commenced, when the earth was wet from repeated rains, and occasionally snowy weather, freezing at night, and thawing in the day; clearly proving, that the state of the weather had nothing to do with the production of this disease, but as regarded *cold.*

As soon as it was ascertained, that the epidemic *typhus* had again burst forth; it was proposed as a proper and necessary step, that the physicians in Easton, should have a *meeting to consult* on the proper mode of treating a disease, which had made such havoc in the winter, and spring before. This was effected without difficulty with the exception of one gentleman of the faculty, who did not choose to be better informed! It was expected after all the disasters of the former season, that there could be or rather ought to be, but one opinion on this occasion; nevertheless it so happened as it always happens, that *doctors will disagree.* After some discussion it was finally agreed, that a uniform mode of treatment should be pursued, and that I alone should publish in the two news-papers of this place what should as I conceived, have been subscribed by all those concerned in the *consultation.* Had this been done, it would have carried more weight, not only among the people themselves in the epidemic quarter, but it might have had a better effect every where else, as there was some probability,

it might spread into the adjacent country; and in that event physicians who had been in successful practice heretofore, would reluctantly relinquish all at once their *systematic routine.* The consequence was, that my efforts to render service to my fellow creatures, were *laughed at by some*, and *thought of little importance by others!* Unfortunately, Dr. Rush had inculcated what medical writers had done before without reflecting, or perhaps not knowing that the human system is not always the same under certain "*constitutions*" *of the air;* and inasmuch as the patients had a "*pain in the side*," generally it was no easy matter to satisfy such *unthinking mortals* as we too generally are, that the lancet would lose its virtues; or that a purge could be equally fatal in a disease, consisting of *the cold stage only of fever.*

I will not pretend to say, that the epidemic "*typhus*" was every where so indiscriminate in the *second season of its rage,* but certain I am, that in some particular quarters of this county, (Talbot,) it was more violent, than I had seen it in the preceding year; and yet where the hot regimen was persisted in, from the first to the last, and no interference of venesection or purging, or nauseating doses were quacked upon the patient, he never failed to do well. But notwithstanding the fatality of *such remedies* in too many instances, I am confident scarcely fifty persons in the whole county, fell victims to this disease, which had immolated five hundred in the same space of time, of the preceding year, viz. from the first of January to the middle of June.

But this winter it burst the barriers, by which it seemed to have been surrounded the preceding year. It as it were passed, almost harmlessly through Cambridge in Dorchester county, where it had done some mischief twelve months before, and suddenly made an irruption into the country adjacent, which had escaped its ravages heretofore. It burst forth in a section of that county, called *black-water*, from a river of that name, sweeping with the "besom of destruction," a great proportion of its population, leaving scarcely one-third of the men behind! I was in that quarter of the county, about the middle

of March, rather after its *fury had subsided*, and conversed with one of the survivers, who told me with a tone of sadness, that "*the people had all died up*," meaning thereby, as I discovered afterward from his conversation, that the men more especially had suffered, and that almost all had died, who were attacked by this *typhus fever!* It continued its course through Black-Water, passed along by Transquakin, with nearly the same fatal effects; crossed suddenly over Nanticoke river; or rather as I should have said in every instance, a subtile *something* had evolved from the earth months before, which had now been put into action by the *cold* weather in due course of time according to the principles and doctrines, which I have been endeavouring to impress upon the reader throughout this whole essay; *principles* and *doctrines*, which if well understood, may save in future the lives of thousands of unthinking mortals, of which mankind are made up. Its effects as just observed, began in Somerset on Nanticoke, in a neck of land made by that river and a creek, the name of which I do not recollect, where it did more mischief in a very short space of time, than had ever before done, with the sad effects of the lancet, and calomel and jalop. Alas! How often are the greatest blessings perverted, and made the cruel instruments of death, through blindness and ignorance?

I have it from several sources, that out of fifty-six men, who were alive, when this calamitous scourge came upon them, scarcely one was left to sooth the grief of the women and children, towards whom it is said, it showed a tender mercy in almost every instance!! Why it made this distinction can be accounted for in no other way, than by supposing that men were more exposed to the vicissitudes of the weather, which was the *exciting cause* of the disease!

That this great fatality might have been obviated by better treatment, or the evil greatly diminished, by having left the whole to nature, I have no sort of question, while I have as little doubt, that my *silly publication* was regarded, just about as much as the passing wind. Advice from higher sources upon many other occasions, is too often disregarded and some-

times laughed at, until evils thicken upon us, and are with difficulty, or perhaps never remedied. To be candid, I ought to be cautious, how I take upon myself the office of a censor in such matters, especially when I recollect, that I have felt no small spirit of indignation, when attempts have been made to reclaim me from error, generally giving up with reluctance, principles and practices, which I thought infallible, perhaps because they were inculcated by the high authority of a Cullen, a Rush, and a long list of medical worthies. "It is human to err," but no small indication of an improved understanding to renounce errors, which have had some appearance of endangering life in cases of difficulty, and at the same time rather novel in their appearance. I am ready to confess, that before I became somewhat enlightened by a little practical knowledge, I have been rather indisposed to believe all, that I have heard, and read of the "*spotted fever*," in the New England states; and not a little disposed to treat the accounts of it with no small indifference, feeling at the same time inclined to be a little incredulous as to the correct mode of treating it, more especially when I understood, that the *lancet was a dangerous remedy* in the winter and spring months, having considered it more entitled to infallibility, than any other remedy at such seasons, and in such a climate as that of New England, if used judiciously; of course, I thought myself justifiable in calling in question the judgment and skill, of the faculty in that quarter! But now I have learnt to think very differently of the whole matter, and though I am persuaded, that the "*spotted fever*" was of the same nature and character, of our *epidemic typhus*, yet perhaps, it has not been so well understood, as it is at this time among our gentlemen of the faculty. To be plain, I cannot be induced to believe, that the term "*spotted*," could be properly applied to such a fever as our epidemic, or the one in New England. The spots from whence it has derived its name, could have been nothing more, than what are very commonly seen in dead bodies, or such as are frequently seen on patients, during the cold stage of fever, when that stage has been excessively violent; in fact such as

I have seen hundreds of times, just before a patient has gone off the stage of life in the cholera morbus, and many other complaints; and not the petechiæ, which have characterized some fevers.

How much longer this epidemic, which has now become less formidable here, because it is better understood, will continue to revisit this quarter is altogether impossible to determine or foresee. Two *winters* have passed away, which have been most cruelly marked by its *footsteps;* while it is becoming every day, (January 21st, 1815,) a most consoling reflection to think, that the *noxious cause* is gradually subsiding, though it is somewhat painful to observe, the very few cases of pneumonia or pleurisies, which have occurred since the *cold* weather has set in, are yet characterized with too many of the symptoms of the epidemic *typhus;* while at the same time, it is distressing beyond measure, to hear from different parts of the state, that some suspicions have arisen, that the same *noxious cause* has burst forth in those quarters, and generated a disease equally fatal in too many instances, with our epidemic in 1813; and thus for a while blasted our hopes of *all things* returning to their accustomed order, and *nature supporting a just equilibrium among her elements.* But why do I repine at the order of Almighty Providence; "*he tempers the winds to the shorn lamb,*" and while in this instance of his dispensation, we are murmuring, he has perhaps, made it less difficult to guard against a *negative,* than we have formerly been able to *breast* the *positive* power of the elements. When the latter *power* prevailed in our atmosphere, it enabled disease to come upon us like, what I once heard Dr. Rush call a tornado, which art too seldom was able to withstand with all the powers of antiphlogistics, and the lancet which was wielded in vain; but in the former, the genial warmth of fire could always be drawn forth by art, to revive the sinking faculties of nature, which were for a while unable to accommodate themselves to *the* "*deficiency of the vital principle in the air,*" which the convulsions of nature in the bowels of the earth had deranged.

I am fully aware of the embarrassing situation, which physicians are beginning to feel themselves under in many parts of this and the other states, with regard to the treatment of pneumonia, &c. at this particular juncture of time, more especially when they have heard of, or seen patients sink under the depleting system. I may therefore, be permitted to observe what they must all know, that common colds or catarrhs, have always been cured much more readily, by putting a patient to bed, and promoting perspiration by a plenteous use of *dilutants*, as they are called, than by any other method whatever. If this method should fail in curing *pleurisies*, they will have some consolation, that they have done no harm, and that it is far preferable and less wounding to a tender conscience, that the patient should die in the hands of nature, than by their officiousness. But I trust every one, who has any knowlege of the *animal economy*, will fully comprehend and soon learn the difference between *excitability*, and a want of it in the system of the human body, and treat his patient judiciously under all circumstances; therefore when he is called to a patient at a time, when he has discovered that the *cold stage of fever* is upon him, let him be cautious how he proceeds! *Let him feel the feet and regard the pulse less; and though the face may be flushed*, if they are cold, he must go directly to work to restore heat to the system! Let him inculcate wherever he goes, if any such complaint is beginning to rise, that a patient cannot begin too soon, after a chill or ague has commenced, to restore that heat to the system, which *nature with all her powers seems unable to do.*

My practice has been for almost two years, and still is when I am called to a patient who had a chill, and the usual symptoms of fever coming upon him, to give him without much enquiry, fifty drops of laudanum, and order him to bed, (if he is not already in it) to be covered up warm; to have hot bricks applied to his feet, which even at this period are always cold, while he may perhaps, be complaining of great *internal heat;* and then order some kind of tea, always preferring Virginia snake root to any other, which he is directed to take from half

a gill to a gill every fifteen or twenty minutes, as hot as he can drink it, until he gets into a perspiration, and then to diminish the dose a little; at bed-time or sometime sooner, the laudanum is again repeated, and the tea to be continued as much as possible through the night; and again to commence regularly in the morning. If the coldness in the feet or sometimes in the body, is not inclined to go off in some short time, a spoonful or two of ardent spirits, to be put in sometimes every dose. If the disease has been on the patient for some days, it is sometimes difficult to raise a perspiration, but if he is just taken however violently, and an *effusion of serum on the lungs* has not come on, (which by the bye sometimes takes place almost instantaneously with the ague,) there is not the least fear, but that a breathing sweat will come on, which must be kept up as above directed day after day, until the patient is relieved from the *cold stage*, when the fever directly goes off, and the patient is well!!

It has been usual besides the above *simple way*, to give bolosus of camphor and volatile salts, and to alternate them with the tea, something after the manner of the Rev. Matthew Wilson.

As to encouraging expectoration, I have on the contrary always endeavoured to check it, which has always afforded great relief to the patient; the heaviness and fullness of the thorax or chest, being always relieved by it, which is altogether contrary to what I had formerly experienced, in ordinary times.

As to blisters, to the pained part in the side, I never have been fond of their use, though I never failed to apply them, if the patient was not relieved by the constant application of hot salt, or hot any thing to his side, in two or three days. Indeed one objection to blisters must be obvious, if the principles of this essay are admitted, viz. the surface of the body, is thereby necessarily exposed to the cool air, during the time of applying them, which no doubt, has sometimes aggravated the cold stage, or brought it on a second time, making what has very properly at times been called a relapse.

This method of treating a *formidable disease*, may appear "simple indeed," but as the Rev. Matthew Wilson, has observed on a similar occasion, "*nature is simple in all her way.*" Though I cannot say what this reverend gentleman has asserted, that "he never lost a patient after he *providentially fell upon this plan*," this much I can say with as much truth, that if it was begun upon in proper time, and properly persisted in, that not one patient in twenty died; which perhaps, is saying more than could ever have been said of the depleting system, when it was actually indicated in former times. If others should be as fortunate, by the use of this method of treatment, in a disease of a similar nature and character, my object is accomplished; but let the glory be to the great disposer of all human events!

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